STOPPING WATER POLLUTION AT ITS SOURCE

MISA

Municipal/Industrial Strategy for Abatement

THE DEVELOPMENT DOCUMENT FOR THE EFFLUENT MONITORING REGULATION FOR THE INORGANIC CHEMICAL SECTOR

Ontario

Environment
Environnement

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APPENDIX

USE OF THE MISA SECTOR SPECIFIC REGULATIONS WITH THE GENERAL REGULATION

Under the Municipal/Industrial Strategy for Abatement (MISA), the monitoring requirements for each sector are specified in two regulations - The General Effluent Monitoring Regulation (Ontario Regulation 695/88) and the relevant sector-specific regulation.

The General Effluent Monitoring Regulation provides the technical principles which are common to all sectors. It covers the "how to" items such as sampling, chemical analysis, toxicity testing, flow measurement and reporting.

The sector-specific regulation specifies the monitoring requirements of each direct discharger, such as the actual parameters to be monitored, the frequency of monitoring and regulation in-force dates. The Regulation described in this document is the sector-specific regulation for the Inorganic Chemical Sector.

The General Effluent Monitoring Regulation, which must be used in conjunction with the sector-specific regulation, is published under a separate cover. The same document also includes a discussion of the MISA approach to effluent monitoring.

FOREWORD

The Municipal/Industrial Strategy for Abatement (MISA) program is aimed at reducing discharges of toxic contaminants to Ontario's waterways. The ultimate goal of the MISA program is the virtual elimination of persistent toxic contaminants from all discharges to Ontario's receiving waters.

The Inorganic Chemical Sector facilities covered in this document directly discharge their wastewater to surface watercourses. Other inorganic chemical manufacturing facilities which discharge their wastewater solely to municipal sewers are regulated separately under the municipal component of the MISA program.

This document contains:

A. An overview of the Inorganic Chemical Sector plants.

B. The technical rationale to explain the steps involved in developing the Regulation.

C. The Draft Effluent Monitoring Regulation for the Inorganic Chemical Sector in Ontario.

D. Explanatory Notes which explain the legal terms used in the Regulation.

PART A

OVERVIEW OF THE
INORGANIC CHEMICAL SECTOR

I INTRODUCTION

This part of the development document includes a brief general description of the inorganic chemical industry. Also included is a definition of the Sector in Ontario and an overview of each site describing its process operations, waste water treatment systems and effluent monitoring at each site.

II INORGANIC CHEMICAL MANUFACTURING

In the early stages of development, chemistry was divided into the fields of organic chemistry which was concerned with living organisms and associated materials, and inorganic chemistry covering all other substances.

Inorganic chemistry today remains a major branch of chemistry that is re-defined to embrace most substances except those containing carbon chains. Graphite and diamond however are arbitrarily designated as inorganic materials.

The inorganic chemical industry processes and refines naturally occurring inorganic raw materials into a wide variety of products. Products include acids and bases, caustic soda, soda ash, fertilizers, explosives, carbon black, detergent additives, bleaches and industrial gases. These materials themselves are used in the production of other finished products such as dyes, plastics and drugs.

Major processes used in the industry include evaporation, combustion, high temperature reduction, electrolytic reactions, purification, size reduction, extraction, drying, calcination, nitration, melting, dehydration and absorption.

III PRINCIPAL RAW MATERIALS

The majority of raw materials used in the inorganic chemical industry are naturally occurring substances and are generally extracted from the earth's crust.

Inorganic chemicals are usually derived from materials of mineral origin. For instance common table salt is a raw material for such chemicals as chlorine, caustic soda and sodium chlorate. These chemicals are important ingredients for the production of wood pulp, plastics, bleaches, glass, detergents and aluminum.

Gypsum rock when calcined loses its water and can then be used to make plaster board. Bauxite, which is approximately 80% aluminum oxide, is the primary ingredient used to produce abrasive grains.

The fertilizer industry uses air and natural gas as raw materials in the manufacture of nitrogen fertilizer products. Brine solutions pumped from wells and quarried limestone are the main components used for manufacturing products such as calcium chloride, soda ash, caustic soda and chlorine gas. Sand is used as an initial ingredient in the production of glass insulation.

Figure 1. shows a flow diagram for a typical inorganic chemical facility producing caustic soda and sodium bicarbonate.

IV WASTEWATER

Wastewater generated within the inorganic chemical industry, by virtue of the products manufactured, contains a number of conventional and priority pollutants. Conventional pollutants found have included suspended solids, acids, bases, chlorides, cyanide, sulphates, phosphorus, oil and grease, and nitrogen compounds. Priority pollutants have included metals and phenols as well as organic contaminants.

Organic contaminants in effluent from this industry usually originate from plant maintenance operations which use cleaning solvents and degreasers, and from on-site laboratories.

V WASTEWATER CONTROL

Physical-chemical treatment processes are used in the inorganic chemical industry to control the discharge of pollutants to surface watercourses. Technologies used include flow equalization, neutralization, sedimentation, carbon adsorption, filtration, flocculation, steam stripping and ion-exchange.

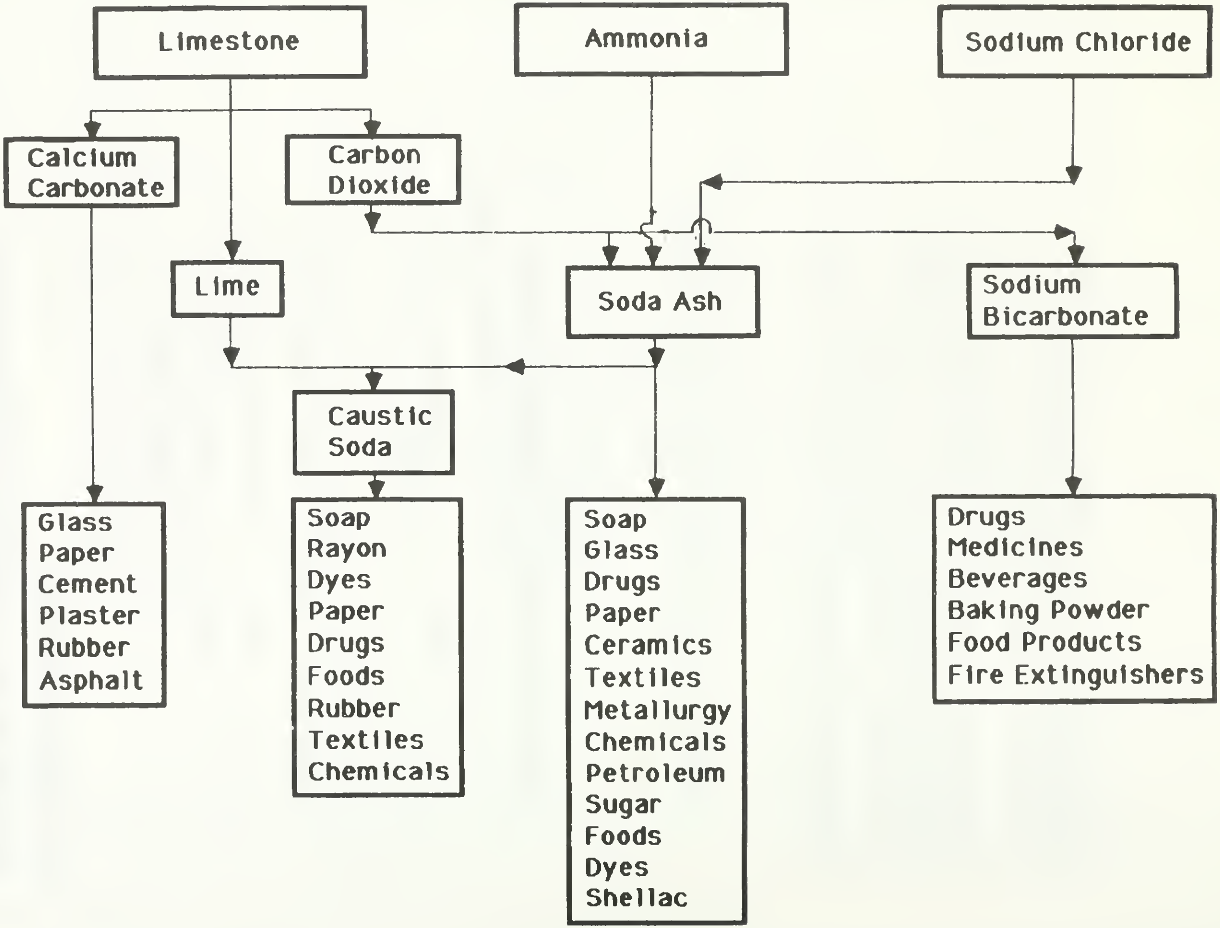
The use of biological systems for waste effluent treatment is not practical for this industry, due to the relatively low levels of organic contaminants present.

VI THE INORGANIC CHEMICAL SECTOR IN ONTARIO

The Inorganic Chemical Sector in Ontario is extremely diverse. It consists of 22 plants which range from small single product facilities such as abrasives, sulphuric acid, explosives and carbon black plants to large multi-product facilities such as fertilizer plants. Each plant tends to be unique in terms of size and products manufactured.

Approximately 12 of the facilities have some form of effluent treatment such as lagoons and neutralization basins. Two sites have

Figure 1: ALKALI MANUFACTURING FACILITY



secondary/tertiary treatment such as carbon adsorption systems. The remaining plants discharge their effluent directly to the receiving streams with no treatment. Dilution of the final effluent with cooling water is common in this Sector.

For the purposes of this Regulation, the Inorganic Chemical Sector is defined to include all direct discharging plants, primarily engaged in the processing, manufacturing, packaging or blending of inorganic chemicals. Inactive inorganic chemical sites which have direct point source discharges to surface watercourses are also included.

The Sector can also be described in terms of the Standard Industrial Classification codes as used by Statistics Canada (1).

Major Group 33- Other Electrical Industrial Equipment Industries

3399	Carbon electrodes

Major Group 35- Non-Metallic Mineral Products Industries

3571	Abrasives industry, granular product
3594	Non-metallic mineral insulating industry

Major Group 37- Chemical And Chemical Products Industries

3711	Bulk inorganic chemical industry
3721-3729	Chemical fertilizer industry
3799	Explosives industry

VII SECTOR OVERVIEW

This section provides a sector overview of the Inorganic Chemical Sector companies summarizing details such as types of processes used at each facility, number of employees and water use at each site. Reference is also made to any historical surveys or studies conducted at these sites by Environment Canada or the Ministry.

Albright and Wilson Americas - Port Maitland.

The Albright and Wilson plant is located in Port Maitland at the mouth of the Grand River on Lake Erie. The plant employing approximately 70 people, manufactures phosphoric acid, di-sodium phosphate, tri-sodium phosphate, sodium tri-polyphosphate, tetra-sodium pyrophosphate, tetra-potassium pyrophosphate, di-potassium phosphate and potassium polyphosphate.

Phosphoric acid is produced in a furnace where yellow phosphorus is burned in air and then hydrated to give the required product acid concentration. This acid is then reacted with sodium and potassium salts to produce industrial phosphate products.

Sodium based phosphates are used as water softeners in detergents. Potassium based phosphates are used as inhibitors in automotive engine coolants, additives for coffee creamers and liquid detergents.

Water for the plant is pumped from Lake Erie at a rate of 5,000 cubic metres per day.

The site discharges into the Grand River via the Welland feeder canal. The final effluent is made up mostly of once through cooling water, with some additions from ion-exchanger backwashes, water softener columns and boiler blowdowns. Once through cooling water is used for cooling phosphoric acid and liquid potassium phosphate products. There is one cooling tower on site to cool water from the burner, hydrator and venturi jackets.

There have been no special studies done by Environment Canada or the Ministry on wastewater discharges from this site.

There are no monitoring requirements for this plant under the Ministry's Industrial Monitoring Information System (IMIS)(2).

Allied Chemicals Canada Inc - Amherstburg.

The Allied Chemicals plant which employs approximately 100 people is located just outside the town of Amherstburg along the Detroit River. The Allied Chemicals facility originally included the General Chemical Canada complex where soda ash and calcium chloride are produced. However due to a corporate spin-off, Allied Chemicals Canada and General Chemical Canada are now separate, independent companies operating at the same location.

Allied Chemicals operates the hydrofluoric acid plant, the Genetron* facility (which produces chlorofluorocarbons) and is responsible for effluent discharges from an on-site quarry.

Hydrogen fluoride is produced from the reaction of sulphuric acid

and fluorspar (calcium fluoride), with gypsum (calcium sulphate) being formed as a by-product. The Genetron* facility produces chlorofluorocarbons by the reaction of carbon tetrachloride or chloroform with hydrogen fluoride.

Hydrogen fluoride is used as a catalyst in the petroleum industry, as an additive for dyes and in the manufacture of certain plastics. Chlorofluorocarbons are used as refrigerants and as blowing agents in the manufacture of plastic foams.

Intake water is supplied by General Chemical Canada from the Detroit River. Wastewater from the hydrogen fluoride plant consists of a neutralized gypsum residue stream which is pumped to a settling basin. The supernatant liquid is recycled back into the process while excess liquid is bled to the General Chemical soda ash waste settling basin which discharges to the Detroit River.

Waste streams from the Genetron* plant include a drain from a collection sump for process effluent, spills and washdowns which discharge into General Chemical's North Drain. A waste hydrochloric acid stream is pumped to General Chemical's soda ash waste settling basin. A small caustic stream is sent to General Chemical for addition to its brine mud. The stream is treated to reduce chlorides before it is returned to the hydrogen fluoride plant for neutralization of the gypsum by-product stream. A once-through cooling water stream from the compressors is discharged into General Chemical's Main Drain.

Allied Chemicals also discharges effluent from an on-site quarry. This old mined-out quarry collects storm water and chloride contaminated ground water. The Ministry has required the plant to keep the level of quarry water below the ground water level to reduce the extent of ground water contamination. The quarry is periodically pumped to the South Drain which discharges to the Detroit River.

As all effluent streams from Allied Chemicals (except the on-site quarry) discharge into General Chemical's effluent drains, there is no historical data on pollutants in waste streams from Allied Chemicals Canada.

There are no IMIS (2) monitoring requirements for Allied Chemicals Canada.

*- Genetron is a registered trade mark of Allied Chemicals Canada Inc. for its chlorofluorocarbon products.

Cabot Canada Ltd - Sarnia.

The Cabot Canada facility is located in Sarnia and employs approximately 180 people. It manufactures carbon black by the oil furnace process. Aromatic tars are heated in the presence of air in a refractory lined furnace where they are cracked at approximately 1600 degrees Celsius into carbon and hydrogen. Carbon black is used in the manufacture of automotive tires, inks, paint pigments and carbon paper.

Intake water is supplied from Polysar Limited at a rate of 240 cubic metres per day. Water is used in the process as a quench to control the temperature after the cracking reaction and is also added to the pelletizing process.

All storm water that accumulates on site is collected and treated with alum to precipitate suspended solids in a settling lagoon. The wastewater is then passed through filter beds before final discharge to Talford Creek. The lagoon also collects water from boiler blowdowns, air conditioning units and wash water. A second lagoon is used as a stand-by.

A 1980 St. Clair River Point Source Study (3) was conducted at this facility by Environment Canada. Since only one sample was taken, no conclusions were made from this study.

There are no IMIS (2) monitoring requirements for this facility.

C-I-L Inc. - Cornwall.

The C-I-L chlor-alkali plant, which dates back to 1935, is located in Cornwall and employs approximately 160 people. It shares the same manufacturing complex with Cornwall Chemicals Ltd., a producer of carbon tetrachloride, carbon disulphide and sodium hydrosulphide. Effluent from Cornwall Chemicals Ltd. discharges into the Brookdale Ave. sewer upstream of the chlor-alkali discharge point and is regulated under the "Organic Chemical Manufacturing Sector Effluent Monitoring Regulation".

The chlor-alkali plant produces caustic soda, caustic potash, chlorine, hydrogen, hydrochloric acid, chlorinated paraffins and sodium hypochlorite. These are used in the manufacture of various products including PVC plastics, bleaches and in the treatment of wood pulp.

Chlorine and caustic soda are produced from the electrolytic decomposition of brine solution. An electric current is passed through a flowing brine solution to decompose the sodium chloride. The sodium ion forms an amalgam with mercury (the anode) and flows to a decomposer. Water is added to the decomposer and

reacts with the sodium ion to form sodium hydroxide and hydrogen gas.

The chloride ion travels to the anode plate where chlorine gas is liberated. Potassium hydroxide is also manufactured when potassium chloride is used in place of the brine solution.

Hydrochloric acid is produced by the combustion of chlorine and hydrogen, a by-product from the manufacture of caustic soda. The acid vapour is absorbed in water to form the final product.

Intake water for the C-I-L site is largely supplied from the city of Cornwall. However during the summer, well water is used to supplement the city water supply. Principal water uses include make-up for the brine circuit, dilution water for caustic solutions, seal water in brine pumps, cooling tower make-up, an absorber for hydrochloric gas to make acid, as cell room wash water and for the general washdown of equipment.

Wastewater from the cell-room is treated with iron sulphate and sodium hydrosulphide to precipitate mercury. It is adjusted for pH and filtered before mixing with water from other areas of the plant. The combined effluent from the chlor-alkali complex discharges into the Brookdale Ave. sewer.

The facility currently monitors mercury and other conventional parameters for the IMIS program (2). All effluent from mercury cell chlor-alkali facilities are federally regulated, requiring daily monitoring for mercury. Environment Canada conducted a study in 1981-82 for priority pollutants in effluent from chlor-alkali facilities (4).

The complex was monitored for priority pollutants as part of the Cornwall Point Source Study in 1980 (5).

C-I-L Inc. - Courtright Works.

C-I-L's facility is located on the south side of the town of Courtright adjacent to the St. Clair River. It is one of the largest fertilizer facilities in Canada and manufactures ammonia, granular urea, urea solution, sulphur coated urea, ammonium nitrate, nitric acid, nitrogen solutions and carbon dioxide. Prior to 1986, this plant also produced phosphoric acid and ammonium phosphate.

Ammonia is produced by the reaction of hydrogen gas with nitrogen over a catalyst at elevated temperatures and pressures. Natural gas is reformed at high temperatures to supply hydrogen, while nitrogen is supplied from the air. Carbon dioxide is formed as a by-product.

Urea is manufactured by the reaction of ammonia with carbon

dioxide to form ammonium carbamate, which is then dehydrated to give a final urea product solution. Solid urea is formed by subjecting this urea solution to granulation or prilling operations. Some of the urea is then coated with liquid sulphur to be sold as sulphur coated urea.

Nitric acid is produced by reacting ammonia with air over a catalyst at high temperature to give nitrogen dioxide, which is then absorbed in water to produce nitric acid. Ammonium nitrate is manufactured by neutralizing ammonia with nitric acid in a reactor to form ammonium nitrate solution. This solution is then "prilled" to form solid grains or prills of ammonium nitrate.

Intake water is pumped from the St. Clair River at a rate of approximately 350,000 cubic metres per day.

Process condensate from one of the two ammonia plants is used to saturate the natural gas, while condensate from the second plant is steam stripped to recover ammonia. Once through cooling water streams from the ammonia, urea, nitrogen solutions, ammonium nitrate, and nitric acid plants, are combined with the process streams before final discharge to the St. Clair River. Compressor and boiler blowdowns are discharged into the cooling water streams. Condensate from the ammonium nitrate neutralizer, floor washings, and other wastewater from the ammonium nitrate prill area is used to make nitrogen fertilizer solutions.

Prior to 1986, process water from the phosphate facilities was sent to two large lagoons for solids settling (mostly gypsum) and cooling before being recycled back into the process. As the phosphate operation is presently shutdown, approximately 1.3 million cubic metres of pondwater is being stored in these lagoons. The water contains fluorides, ammonia, phosphates, low levels of dinitrotoluene and low level radioactivity. Gypsum is a solid by-product of the phosphoric acid process. Fluoride is present due to it being a constituent of phosphate rock.

C-I-L is developing plans for the treatment and controlled discharge of this pondwater. Technological options are being considered at this time.

Process wastewater, once-through cooling water, and surface runoff discharge to a network of open and closed sewers, and ditches which are combined to give a single final effluent discharge into the St. Clair River.

The final effluent from this facility was sampled as part of the Upper Great Lakes Connecting Channels Study (UGLCCS)(6). The study identified C-I-L as being a major source of iron, ammonia, nitrogen, and suspended solids.

The plant was sampled in the 1980 Environment Canada fertilizer

plant studies (7).

The site monitors for fluoride, nitrate, ammonia, pH, phosphorus, and dinitrotoluene (when discharging from the lagoons), as part of the IMIS monitoring program (2).

Columbian Chemicals Canada Ltd - Hamilton.

Columbian Chemicals Canada is located in Hamilton and employs approximately 110 people. The facility produces carbon black by the furnace process. It has two storm water discharge locations which discharge into Windermere Bay. There are no direct discharging process or combined effluent streams. Carbon black is used in the production of automotive tires, inks, paint pigments and carbon paper.

Carbon black is manufactured by the thermal cracking of carbon black oil feedstock in a furnace at temperatures of approximately 1,600 degrees Celsius. The feedstock is cracked to give carbon and a waste gas stream of hydrogen, carbon monoxide and carbon dioxide. The hydrogen is used as a source of energy for the waste heat boilers. The carbon is recovered as a powdered product. The majority of the carbon produced is pelletized before shipment.

Intake water is pumped from Hamilton Bay at a rate of 1,635 cubic metres per day.

This water is used as a quench for temperature reduction of the carbon black after it leaves the furnace, and as an additive to the pelletizing operation. City water is used for boiler feed water and compressor cooling.

All wastewater generated from boiler blowdowns, compressor cooling and water treatment systems is discharged to the sanitary sewer. Contaminated water that collects within the process area is collected in a sump and recycled back into the operation as process quench water.

Storm water is passed through a series of make-shift sand filters before final discharge to Windermere Bay.

There have been no special Environment Canada or Ministry studies of effluent discharges from this facility.

There are no monitoring requirements for this plant under the IMIS program (2).

Cyanamid Canada Inc. - Niagara plant.

Cyanamid Canada's Niagara plant is located in the city of Niagara Falls and employs approximately 300 people. It manufactures calcium carbide, calcium cyanide, calcium cyanamide and desulphurization reagents.

Calcium carbide is made by reacting coke with lime in an electric - arc furnace at a temperature of 2,000-2,200 degrees Celsius. Calcium cyanamide is formed from the reaction of calcium carbide with nitrogen and small quantities of fluorspar. By-products formed from these processes include carbon monoxide, oxygen, calcium and carbonate sludge. Desulphurizing reagents are formed from the blending of diamide lime with calcium carbide.

Calcium carbide is used in the steel industry for desulphurizing steel, in the generation of acetylene and as an intermediate for calcium cyanide. Calcium cyanide is used in the gold refining industry.

Intake water is pumped from the Hydro canal at a rate of approximately 26,450 cubic metres per day.

The water is used mostly for cooling jackets of the electric furnaces and transformer cables. Approximately half of the cooling water is discharged directly back to the Hydro canal, the remainder is sent to the cooling water pond where it can be re-used for cooling purposes in the plant. Overflow from the cooling water pond discharges continuously to Whitty Creek and eventually into the Niagara River. Contamination of cooling water within the plant occurs from spills of raw materials and product into storm drains which discharge directly into the cooling water channels.

The site monitors pH, cyanide, phosphorus, suspended solids and BOD under the IMIS program (2).

Under the Niagara River Monitoring Information System program (NIAMIS) (8), the Ministry conducts on average 3 partial characterizations per year on the two effluent discharges from the plant.

Cyanamid Canada Inc. - Welland plant.

Cyanamid Canada's Welland plant is located on the south side of Niagara Falls on the Welland River. It manufactures ammonia, dicyandiamide, 50% cyanamide solutions, phosphine and phosphine derivatives, and electronic grade chemicals. It presently employs approximately 300 people. It has one final effluent discharge into Miller's Creek which drains into the Welland River.

Ammonia is manufactured by the reaction of hydrogen gas with nitrogen over a catalyst at elevated temperatures and pressures. Natural gas is reformed at high temperatures to supply hydrogen, while nitrogen is supplied from the air. Carbon dioxide is formed as a by-product.

Dicyandiamide is formed when hydrogen cyanamide solution is reacted at elevated pH. The resulting dicyandiamide is crystallized, centrifuged and dried. Hydrogen cyanamide solution is also concentrated and stabilized as a finished product.

Phosphine gas is produced when yellow phosphorus is heated with steam in a reactor. Other derivatives are also produced from the phosphine gas.

Prior to May 1987, the Cyanamid Welland plant manufactured nitric acid, ammonium nitrate and calcium phosphate. Urea was also produced at this site. These products are no longer manufactured.

Intake water is pumped from the Welland River at a rate of 28,800 cubic metres per day.

Wastewaters are generated from boiler, compressor, cooling tower, and steam plant blowdowns. Wastewater also originates from once - through cooling water streams, barometric condensers and a sludge pond. All process units discharge into Miller's Creek which runs through the Cyanamid property. There is an active sludge pond on site which receives waste sludge material from the phosphine and dicyandiamide plants.

The final effluent discharge from this facility has been subject to sudden pH and specific conductance spikes in the past. Cyanamid has since installed an equalization pond upstream of its final sampling location to reduce the occurrence of these surges in the effluent.

The plant monitors ammonia, nitrates, Kjeldahl nitrogen, pH, BOD, suspended solids, chromium and phosphorus under the IMIS program (2).

The Ministry under the NIAMIS program (8) conducts on average 3 characterizations per year on the final discharge from the plant.

<u>The Exolon - ESK Company of Canada Ltd - Thorold.</u>

The Exolon - ESK facility is located in Thorold and produces aluminum oxide, silicon carbide, and ferro-silicon. It employs approximately 100 people and has one final effluent discharge into Beaverdam pond and eventually to Lake Gibson.

Aluminum oxide is manufactured by the fusing of bauxite ore with a

small amount of coke in a large electric-arc furnace. The melt is poured into large ladles where it cools and solidifies. This solid material is then crushed to produce the final abrasive grains. Ferro-silicon, a by-product, is recovered from the ladle bottoms.

Silicon carbide is manufactured by reacting sand and coke, at 2,000 degrees Celsius, in a horizontal furnace.

Intake water is pumped from the Welland River at a rate of 180 cubic metres per day.

Water is used to provide cooling for furnace shells, transformers, and ladles. All the cooling water is sent to a sedimentation pond before discharge to Beaverdam Pond. Storm water from the plant discharges with the final effluent into Beaverdam Pond.

The site monitors oil & grease, and suspended solids under the IMIS monitoring program (2).

E T I Explosives Technologies International - North Bay.

Explosives Technologies International is located just outside the City of North Bay and employs approximately 150 people. The plant was sold by Du Pont Canada in 1988 to Canadian Investment Capital and now operates under the name of Explosives Technologies International.

It presently manufactures two types of explosives, ANFO (a mixture of ammonium nitrate and fuel oil) which is sold under the trade name of "Nilite", and water gel explosives. Up until 1985, the facility, under Du Pont Canada, also manufactured ammonium nitrate and nitric acid.

Intake water is pumped from Lake Nipissing at 3,900 cubic metres per day. However only half of the water is used. The remainder is sent to La Vase Lake.

In the water gel process, water is used for making the water gel solutions, equipment washdowns, reworking waste solutions and general housekeeping. Most of this water is recycled, however a portion is purged and sent to a holding pond on site. In summer the wastewater from the pond is then sprayed on land adjacent to the pond.

Water is used in the ANFO process for wash-downs only. This water is also collected and sent to the holding pond.

The facility discharges its wastewater through one outfall into La Vase Lake. This wastewater consists of excess intake water from Lake Nipissing, once-through cooling water, boiler blowdown, surface

run-off from the old ammonium nitrate/nitric acid plants, and leachate from the irrigated sections of land.

Effluent discharges from this facility are monitored under IMIS for pH, ammonia, nitrate and nitrite, and suspended solids (2). There have been no Environment Canada or Ministry studies of effluent discharges from this facility.

<u>Fiberglas Canada Inc - Sarnia.</u>

Fiberglas Canada is located on Kenny Street in Sarnia, and has a total work force of 455 people. The plant produces various grades of glass fibre insulation for home building, commercial and industrial applications. The facility has one final effluent discharge into the Cole Drain. There is no treatment of this wastewater.

Glass fibre insulation is basically glass fibres bound together with a phenol-formaldehyde thermosetting resin. Boro-silicate glass, which is produced in an electric-arc furnace, is fed as a melt to a fibre forming machine. Phenol-formaldehyde binder is then sprayed onto the fibres as part of the forming process. Binder coated fibres are formed into a continuous "pack" on a conveyor. Some of the products are conveyed to a gas-fired curing oven to set the resin, and then shaped and packaged to final product specifications. Roofing and acoustical products are imparted with a facing material on the insulation.

Intake water is supplied from Polysar Limited at a rate of 5,200 cubic metres per day.

Water is used within the plant for cooling glass fibre insulation, to cool and solidify the molten glass stream when the unit is being shut down (cullet water), as make-up water for binder solution, and for washing down conveyors and equipment. Once-through cooling water is used for the furnace, compressors, and emergency generators. Water which contacts the binder materials is recycled into the process as binder dilution water, with any excess being hauled away as a liquid industrial waste. The cullet water is screened for glass beads before being discharged into the Cole Drain. The recovered glass beads are recycled into the furnace.

Fiberglas Canada operates a solid waste disposal site at Scott Road. Liquid effluent from this facility is sent to Dow Chemical for treatment, after which it is returned to Fiberglas for storage. This liquid is then shipped for disposal as a liquid industrial waste.

The site presently monitors phenols under the IMIS program (2).

There have been no special Ministry or Environment Canada studies of effluent from this facility.

General Chemical Canada Ltd - Amherstburg.

General Chemical Canada Ltd. is located beside the Detroit River just outside the town of Amherstburg. It employs approximately 500 people and manufactures soda ash and calcium chloride. Allied Chemicals Canada Inc. manufactures Genetrons* (chlorofluorocarbons) and hydrogen fluoride at the same complex. General Chemical Canada has two outfalls which discharge into the Detroit River, the North Drain and the Main Drain.

Soda ash is produced by the Solvay process. Brine solution is pumped from wells where it is carbonated and reacted with slaked lime to form sodium carbonate product, and calcium chloride a co-product. The calcium chloride solution also contains sodium chloride, lime, inert solids and ammonia. This solution is pumped to the calcium chloride plant where it is clarified and concentrated to produce a final product. Excess liquid is sent to the soda ash settling basin.

Soda ash is used as a major raw material in the manufacture of sodium salts, glass, detergents, as a reagent in ore processing and for pH control. Principal uses of calcium chloride include dust control and maintenance of secondary roads, freeze conditioning for coal and ores, as a conditioner for concrete and as a dehydrating agent.

Intake water is pumped from the Detroit River at a rate of 100,000 cubic metres per day.

Wastewater generated from within the plant is sent for processing to the calcium chloride plant. Calcium chloride is recovered from this wastewater after which it is pumped to a large lagoon for settling of solid material. A bleed stream from Allied Chemicals hydrogen fluoride facility is also pumped to the large lagoon for removal of suspended solids. The clarified water from this lagoon is sent to the Detroit River via the North Drain. Waste streams from the lime kilns, boiler blowdowns and barometric condensers are sent to the Main Drain. Allied Chemicals chlorofluorocarbons plant also discharges a process waste stream into the General Chemical's North Drain.

The 1988 UGLCCS (6) identified General Chemical Canada as being a source of copper, arsenic, cobalt, chlorides, ammonia, total organic carbon, fluoride and chromium in its effluent.

The site monitors chloride, fluoride and ammonia under the IMIS program (2).

* - Genetron is a registered trade mark of Allied Chemicals Canada Inc. for its chlorofluorocarbon product.

International Minerals and Chemicals Corporation Limited - Port Maitland.

The International Minerals and Chemicals Corporation plant is situated in Port Maitland, along the Grand River at Lake Erie. Presently employing only 12 people, this site has been shutdown since 1984, and is now being used as a warehouse facility for imported phosphate fertilizers and animal feed phosphates. It has one final effluent discharging into the Grand River.

The plant manufactured phosphoric and sulphuric acid, calcium phosphate, and various grades of super phosphate fertilizer. Sulphuric acid was made from elemental sulphur, where sulphur dioxide, from the sulphur "roaster" was catalyzed to sulphur trioxide and hydrated to produce sulphuric acid. The sulphuric acid was then reacted with phosphate rock to produce phosphoric acid and super phosphate fertilizers. To produce calcium phosphate, limestone was reacted with the phosphoric acid after which the calcium phosphate product was dried, ground, and screened to make a final product.

There are presently five large storage ponds covering approximately 113 hectares, which contain gypsum material from the old phosphoric acid production process. These ponds are being drained at present. The pond water is neutralized with slaked lime before being discharged to the Grand River at a rate of approximately 2,700 cubic metres per day. Two of the ponds have been drained and covered with clay and grass. The remaining three ponds will be drained over the coming years. All storm water on site drains to the main sewer, where it is discharged through the plants main outfall.

The site monitors pH and phosphorus under the IMIS program (2).

There have been no Ministry or Environment Canada studies of this facility, however Environment Canada has monitored for priority pollutants at similar facilities, and this data has been used as a reference (7).

Nitrochem Inc. - Maitland.

Nitrochem Inc. is located just east of the village of Maitland along the St. Lawrence River. It employs approximately 175 people in the manufacture of ammonia, nitric acid, ammonium nitrate and "nitrogen solutions".

Ammonia is formed from the reaction of hydrogen gas with nitrogen over a catalyst at high temperatures and pressures. The plant operates an air separation unit where nitrogen is separated from air for use in the manufacture of ammonia. Natural gas is the source of hydrogen for the process. Carbon dioxide is formed as a by-product.

Nitric acid is formed from the oxidation of ammonia in air over a heated metal catalyst. The resulting oxides are absorbed in water to form the acid.

Ammonium nitrate is formed when ammonia and nitric acid are mixed in a neutralizer to form approximately 80% ammonium nitrate solution.

Ammonia is used as a refrigerant and in the manufacture of fertilizers and explosives. Nitric acid has many uses as a common acid throughout industry. Ammonium nitrate is used largely as a fertilizer and is the main ingredient in most common explosives.

Intake water is pumped from the St. Lawrence River at a rate of 3,625 cubic metres per day.

The water is used in the nitric acid absorption units and in the manufacture of nitrogen solutions. It is also used as make-up water for the hydrogen generator, boiler feed water and fire water systems.

All wastewater generated from the boiler blowdowns, laboratory, compressor blowdowns, cooling tower blowdown and water treatment regenerants is discharged to the St. Lawrence River without any treatment.

Nitrogen-containing process wastewaters generated from the nitric acid, ammonia and ammonium nitrate plants and surface runoff from these areas all flow to the equalization pond. From there the nitrogen-containing solution is pumped to the "Aquachem Unit" where it is concentrated for use as a product "nitrogen solution". The sanitary sewer after treatment joins process wastewater from the cooling tower blowdown, boiler blowdown and laboratory waste streams before final discharge to the river.

The facility presently monitors pH, ammonia, nitrate and nitrite, and Kjeldahl nitrogen, under the IMIS Program (2).

The effluent from this facility was tested for priority pollutants as part of an Environment Canada study of Canadian fertilizer plants in 1980 (7).

Nitrochem has been under a control order to reduce ammonia and nitrate concentrations to acceptable levels. The company has installed an Aquachem Unit which concentrates nitrogen bearing wastewater for use as a saleable product.

Norton Canada Inc. - Niagara Falls.

The Norton facility is located on the south side of the city of

Niagara Falls, and employs approximately 225 people. Of the four final discharges, two discharge to Pell Creek and two directly to the Welland River. The site manufactures various types of abrasive grains including light Alundum*, dark Alundum*, and alumina-zirconia. Chromic oxide is also produced at this site, but on an infrequent basis.

Dark Alundum* is produced by fusing bauxite, coke, and iron borings together into cupolas for cooling. The solid Alundum* is then crushed and ground before shipment as a granular product. Light Alundum*, which is a higher grade product, has sulphur added during the reduction process in the electric-arc furnace.

The light Alundum* is formed into ingots and crushed. The grains are acid slaked and washed with water to remove iron impurities. The grains are then dried and sent for magnetic separation.

In a separate process, calcined alumina is received on site and fused in a furnace. The melt is formed into ingots from which it is broken and crushed before shipment as a more refined product (99.8% alumina). Alumina-zirconia is manufactured by fusing calcined alumina, baddelyite (zirconia), coke, and recycled fines together. The melt is solidified and crushed to produce a very tough abrasive grain material.

Chromic oxide is infrequently produced in batch units at this site. Tri-valent chromium oxide is melted and formed into ingots to produce a purer product which is then shipped after particle size reduction.

Intake water for the site is pumped from the Welland River at a rate of approximately 14,200 cubic metres per day.

Wastewaters are generated from cooling water for furnace shells, power transformers, and cooling of moulds. Wash water from the light Alundum* process is neutralized with lime and sent to a 4.5 million gallon settling lagoon for solids removal. The discharge from this lagoon is then pumped into a sewer for final discharge into Pell Creek.

Under the IMIS program (2), the plant monitors pH, suspended solids, and oil & grease on the sewer discharge into Pell Creek. The site has one storm sewer, which also drains into Pell Creek.

Each of the four outfalls have been monitored for conventionals and priority pollutants under the NIAMIS program study since 1980 (8).

*- Alundum is a registered trade mark of Norton Canada Inc. for its aluminum oxide abrasive product.

Partek Insulation Ltd. - Sarnia

Partek Insulation, located in Sarnia, employs approximately 130 people. The plant has one effluent discharge into the Scott Road storm ditch. It manufacturers fibre insulation materials for use as roof and pipe insulation, insulating block boards and blankets, wool and marine insulation.

Fibre insulation is manufactured when slag and basalt rock are mixed with coke and melted at approximately 1,400 degrees Celsius in a furnace. The molten charge is then formed into fibres and cooled. Various chemical agents are added to the fibre to impart specific physical qualities, such as greater structural rigidity and dust suppression abilities. The fibres are sent to a blow-chamber where they are drawn to produce wool blankets of various thickness. Batt and industrial felt products are then cut from these blankets. Loose wool products are also manufactured at this facility.

Intake water is supplied from the city of Sarnia at a rate of approximately 265 cubic meters per day.

Wastewater is generated from cupola cooling water which has a blowdown to the Scott Road Ditch. Wastewater generated from floor washings and product over-spray is sent to a retention pond for recycle back into the process. A number of raw materials such as coke, basalt rock and slag are stored in an open area, and are a potential source of storm water contamination.

There have been no Environment Canada or Ministry studies of effluent discharges from this facility.

There are no IMIS monitoring requirements for this plant (2).

Stanchem (Div. of C-I-L Inc.) - Cornwall.

Stanchem, a Business Unit of C-I-L Inc., operates a filling and packaging facility in Cornwall. The site, employing 40 people, is adjacent to the Cornwall Chemical Ltd. manufacturing facility. It packages a number of products such as liquid chlorine, sulphur dioxide, anhydrous ammonia, hydrochloric acid and sulphuric acid.

Wastewater from this unit is generated from container and floor washings. All washings drain to a central collection sump for neutralization. The effluent is batch discharged into the Brookdale Ave. sewer.

Effluent from this plant was monitored during the Cornwall Point Source Study (1985) (5). The study concluded that effluent from this facility contained volatile organics.

Under the IMIS program the plant monitors BOD, COD, pH and suspended solids.

Sulco Chemicals Ltd. - Elmira.

Sulco Chemicals in Elmira employs approximately 15 people. The plant manufactures sulphuric acid and packages a number of acids including hydrochloric, phosphoric, sulphuric and hydrofluoric. It has one effluent discharge into the Canagagigue Creek, a tributary of the Grand River.

Sulphuric acid is manufactured by burning molten sulphur at approximately 925 degrees Celsius in the presence of air. Sulphur dioxide is converted to sulphur trioxide after which it is sent to a combination of absorption towers for absorption in either 37% oleum or 99% sulphuric acid, depending on the product type required. Dilution of final acid with water produces the desired concentration.

Intake water is supplied from the Town of Elmira at a rate of 200 cubic metres per day.

Wastewater generated from within the plant is sent to a 230,000 cubic metre settling pond before final discharge. Boiler blowdown, regenerant backwash and cooling tower blowdown in addition to storm water run-off are sources of wastewater that drain to the settling pond.

There have been no Environment Canada or Ministry studies of effluent from this facility. This plant does not report monitoring data for the IMIS Program (2).

Union Carbide Canada Limited - Welland.

Union Carbide Canada employs approximately 600 people at its location on the Old Welland Ship Canal. It manufactures graphite, carbon electrodes and cathode blocks.

Carbon electrodes are manufactured by mixing calcined anthracite coal with coal tar pitch and stearic acid. The mix is then cooled to a suitable temperature so that it can be extruded to form carbon blocks. The blocks are baked at a temperature of approximately 1,000 degrees Celsius to convert the pitch binder to coke.

Graphite electrodes are made in a similar manner except that petroleum coke is used instead of anthracite coal. An additional processing step is included for producing graphite electrodes, where the carbon electrode is impregnated with petroleum pitch and heated to 3,000 degrees Celsius. This converts the amorphous carbon to

graphite.

Carbon electrodes are used in alloy furnaces. Graphite electrodes are used in electric arc furnaces while cathode blocks are used in aluminum smelters.

Intake water to the site is pumped from the Old Welland Ship Canal at approximately 12,000 cubic metres per day.

Wastewater from the plant originates from cooling furnace heads, compressors and fan bearings. The wastewater discharges with no treatment from two main outfalls. A third outfall discharges smaller quantities of wastewater consisting of cooling water from fan bearings and storm runoff. A waste disposal site is located at the south side of the facility and contains solid carbonaceous material, coke, coal and slag. The site also receives waste sludge from a pulp and paper mill which is sprayed on land adjacent to the manufacturing operations.

There have been no Environment Canada studies of this facility. The Ministry conducted an Environmental Engineering Survey of this plant in 1985.

The plant does not report monitoring data under the IMIS program (2).

Washington Mills Electro Minerals Corporation - Niagara Falls.

Washington Mills Electro Minerals Corporation (formerly Electro-Minerals Canada Inc.) is located on Stanley Avenue in Niagara Falls. The facility has two combined effluent discharges. One flows into the Stanley Ave. storm ditch, the other discharges into Pell Creek. The plant manufactures various grades of abrasive metallic rods and employs approximately 100 people. Products produced include brown alumina, pink alumina, alumina bubbles, ferro-silicon, fused mag-chrome and ferro-carbo briquettes.

All of the products are manufactured by similar processes and depend only on the starting raw materials. All raw materials are weighed and fed into a furnace in definite proportions where they are fused together and poured into moulds for cooling. The cooled solid material is then crushed, sorted and screened to yield the final product. Major raw materials include bauxite, coke, iron borings, white alumina, chromic oxide, ferro-silicon, magnesite and chrome ore.

Intake water is pumped from the Welland River at a rate of 30,000 cubic metres per day.

Process water generated from within the plant is mostly

contaminated cooling water from furnace heads and power transformers. Wastewater is sent to one of two lagoons. The major portion flows to the Queen lagoon for solids reduction and oil and grease removal. Water from this lagoon is partially recirculated back into the plant, with the remainder being discharged into Pell Creek.

The old lagoon accepts wastewater from the west side of the plant and discharges into the Stanley Ave. sewer.

Storm water from the plant is discharged through several locations into the Stanley Ave. sewer and from one location to Pell Creek.

The plant currently monitors for pH, suspended solids, oil and grease, phosphorus and BOD as part of the IMIS program (2).

Under the NIAMIS program (8), the Ministry has annually monitored conventional and priority pollutants on the two combined effluent discharges from this plant.

There have been no Environment Canada studies of this facility.

Washington Mills Limited - Niagara Falls.

Washington Mills is located in the south end of the City of Niagara Falls and employs approximately 35 people. It has one effluent discharge into Chippewa Creek which drains to the Welland River. The facility manufactures aluminum oxide abrasive grains, ferro-silicon, a by-product, and crude aluminum oxide.

Both aluminum products are manufactured in an electric-arc furnace where bauxite, coke and iron filings are fused together to give the aluminum oxide melt. This melt is poured into cooling pots for solidification. The solid material is then extracted from the cooling pots and broken down to give the final product grains.

Intake water is supplied from an on-site well at a rate of approximately 1,630 cubic metres per day.

Water is used for cooling the furnace shell and melt pots. The spent cooling water is collected in open channels where it flows to a cooling pond for solids settling and aeration. This water is partially recirculated into the process. A separate closed cooling water system is provided for cooling the furnace transformer and cables. Make-up water for this system is supplied from the city.

Storm water from the plant is collected in catch basins and combined with the cooling pond discharge effluent before final discharge. Storm water is also discharged separately into Chippewa Creek at a location downstream of the combined effluent location.

The plant presently monitors pH, suspended solids, and oil and grease under the IMIS program (2).

There have been no Environment Canada or Ministry studies of effluent from this facility.

Welland Chemical Ltd. - Sarnia.

Welland Chemical Ltd., located on Scott Road in Sarnia, employs approximately 60 people. The plant manufacturers anhydrous aluminum chloride, sodium hypochlorite, and packages chlorine gas. The facility has one batch and one combined final effluent discharging into Talford Creek. There is also a once-through cooling water stream that discharges into Talford Creek.

Aluminum chloride is produced by melting aluminum ingots in a furnace and passing gaseous chlorine through the melt. The gaseous aluminum chloride is then condensed and crystallizes on the condenser walls. These crystals are removed periodically for crushing, screening, and packaging.

Chlorine is received in tank cars and re-packaged into 150 pound cylinders and one tonne containers. The cylinders and containers are degassed and steam cleaned on site before they are filled.

Sodium hypochlorite solution is also produced by directing residual chlorine to caustic reactors to produce a 15% sodium hypochlorite solution. This solution is packaged into small plastic containers for distribution.

Aluminum chloride is used as a catalyst in the petroleum, pharmaceutical and other related industries. Chlorine is used for purifying water, in the manufacture of chlorinated hydrocarbons, plastics, and other chemicals. Sodium hypochlorite is used as a bleach and disinfectant.

Intake water is supplied from the city at a rate of approximately 14 cubic metres per day.

Water is used to vapourize liquid chlorine and for the washdown of the chlorine packaging areas and sodium hypochlorite plants. Once -through cooling water is used for compressor and condenser cooling.

There are four lagoons on site for wastewater. The south lagoon accepts wash water from the packaging, bulk loading and shipping areas. After treatment this lagoon is pumped out several times a year into Talford Creek .

Two lagoons, which are connected in series, accept wash water from

the chlorine packaging plant, while the north holding lagoon stores sludge collected from the other three lagoons. The two lagoons drain into a settling tank before final discharge into Talford Creek.

All storm water on the site drains to one of the four lagoons.

There is presently no monitoring requirement for this facility under the IMIS program (2).

There have been no Environment Canada or Ministry studies of effluent from this plant.

PART B

THE TECHNICAL RATIONALE FOR THE MONITORING REGULATION
INORGANIC CHEMICAL SECTOR

PART II

THE TECHNICAL RATIONALE FOR THE [illegible]

INORGANIC CHEMICAL SECTOR

THE TECHNICAL RATIONALE FOR THE MONITORING REGULATION- INORGANIC CHEMICAL SECTOR

I INTRODUCTION

This part of the development document describes the basic rationale used for setting the monitoring requirements for the direct dischargers in the Inorganic Chemical Sector and discusses the databases available to the Ministry for parameter selection.

II THE NEED FOR REGULATION

The extent of monitoring being conducted by the Inorganic Chemical Sector companies varies from plant to plant.

Approximately half of the companies presently in the Sector conduct some form of monitoring of their final effluent under the Ministry's IMIS program (2). This is a voluntary program however, and does not have any legal requirements. The data gathered by industry under IMIS is submitted to the Ministry on a monthly basis. Monthly average loadings for a number of parameters are then calculated and published annually in the report entitled "Report on the Industrial Direct Discharges in Ontario" (2).

Many of the parameters analyzed by each plant originate from Control Orders, Certificates of Approval and Federal Regulations which results in inconsistencies from plant to plant in terms of parameters analyzed and allowable loadings. Parameters monitored have largely been conventional parameters such as pH, suspended solids, and BOD, with some plants also monitoring for ammonia, Kjeldahl nitrogen, phenols and a limited number of metals.

The existing data base on other pollutants in the Inorganic Chemical Sector is sparse, as presently there is no monitoring for many organic and inorganic pollutants. The only current data available is from special studies conducted by Environment Canada and the Ministry.

III THE U.S. EPA APPROACH

The United States Environmental Protection Agency promulgated regulations for the Inorganic Chemicals Manufacturing Point Source Category in June 1982 (9). The structure of the inorganic chemical sector in the U.S. however, is different from that of Ontario. In the U.S., the sector is primarily made up of plants that produce only bulk inorganic chemicals. Facilities producing fertilizers, explosives,

fibreglass and carbon black are regulated separately as distinct sectors or categories. Parameters regulated differ within each category and are dependent on the type of manufacturing process conducted at each facility.

A similar categorization of plants was not possible for MISA due to the relatively small number of plants involved.

The following shows a number of industrial categories which are regulated by the U.S. EPA. Pollutants listed are limited by the use of Best Available Technology (Economically Achievable)(BAT(EA));

Category	Sub-category	Pollutant
Inorganic Chemicals Manufacturing	Chlor-Alkali Industry (Mercury Cell Process)	Mercury, Total Residual Chlorine.
	Hydrofluoric Acid	Fluoride, Nickel, Zinc.
Fertilizer Manufacturing	Ammonia	Ammonia, pH.
	Urea	Ammonia, Organic Nitrogen, pH.
	Ammonium Nitrate	Ammonia, Nitrate, pH.
Explosives Manufacturing	Ammonium Nitrate and Fuel Oil (ANFO), Water Gels.	Oil & Grease, Total Suspended Solids, pH.

Other facilities such as carbon black, glass insulation and phosphate based fertilizer facilities are required to meet zero discharge limitations under the U.S. EPA BAT(EA) requirements. Abrasive manufacturers are not currently regulated by the EPA.

IV THE MINISTRY/INORGANIC CHEMICAL SECTOR DIALOGUE

The Ministry adopted an open consultative process both with industry and the public in developing the Inorganic Chemical Sector Effluent Monitoring Regulation. The MISA Advisory Committee (MAC) provided input to the Regulation formulating process. Members of the committee were appointed by the Minister on the basis of their knowledge, concern and expertise in matters dealing with the environment.

A Joint Technical Committee (JTC) consisting of industry, Environment Canada and Ministry representatives served as the means for reaching consensus. A member of the MISA Advisory Committee also took part in the JTC discussions.

A multi-discipline group of Ministry/Environment Canada experts developed the general rationale for the site-specific monitoring requirements. A joint Ministry/Industry Regulation Writing Team then produced the Regulation text for review by the JTC.

On the basis of the rationale and the database available to the Ministry, the site-specific monitoring requirements were drawn up. The specific monitoring requirements were then reviewed with each plant site and modified where required.

V SELECTION OF STRATEGY FOR ROUTINE MONITORING

The Inorganic Chemical Sector in Ontario is highly diversified and encompasses a wide range of manufacturing processes and products. The monitoring strategy for the Sector needed to accommodate this range of process and product types and at the same time be equitable and cost effective. A uniform monitoring requirement schedule across the Sector therefore appeared to be inequitable and wasteful of resources.

Consideration was given to sub-categorizing the Sector. Grouping a number of plants based on products manufactured and process type seemed a reasonable approach. However upon closer examination of each plant within the sub-groups it was evident that, although plants within a sub-group had the same basic type of operation and products, some facilities manufactured additional products which tended to make them unique within the group. Thus sub-categorizing of plants for monitoring was also discarded.

Finally an effluent-specific monitoring strategy was adopted for the Sector since it was the most equitable.

VI PARAMETERS FOR ROUTINE MONITORING

Priority pollutants assigned for routine monitoring of specific effluent were obtained from the Inorganic Chemical Sector List. This list is a subset of The Effluent Monitoring Priority Pollutant List (EMPPL).

The EMPPL is a list of toxic pollutants that have been detected or are potentially present in Ontario municipal and industrial effluent and pose a hazard to the receiving environment (see Table 1 in the appendix). A Ministry publication entitled "The Effluent Monitoring Priority Pollutants List (1988)" (10) describes the derivation of this list. The 1988 EMPPL update contains 266 chemicals and includes 179 parameters from the 1987 EMPPL with an additional 87 parameter from the 1988 update.

Of the 266 chemicals on the current EMPPL, only 141 have validated analytical protocols and 135 of these are on the Inorganic Chemical Sector List (see Table 2 in the appendix).

The Sector list also includes 18 conventional pollutants for monitoring under the Regulation. Table 2 in the Appendix shows the conventional pollutants and the Inorganic Chemical Sector priority pollutants arranged by analytical test groups. The listed pollutants form the basis for monitoring in the Inorganic Chemical Sector.

VII DATABASES USED FOR PARAMETER SELECTION

In preparation for the monitoring regulation, the Sector plants conducted a pre-regulation monitoring program of their process effluent against the EMPPL and a selected number of conventional parameters. Generally, the program required four days of composite sampling of all final combined and process effluent streams. The Ministry, in addition, obtained an audit sample from each facility during one of the four sampling days. The samples were also analyzed for a number of selected conventional parameters in addition to chemicals on the EMPPL. Intake water samples were also monitored by each site.(see Table 3)

In addition to the target parameters on the EMPPL, open characterization for organic compounds and inorganic elements was conducted using mass spectometry/gas chromatography and plasma techniques on at least two of the four sets of composite samples to identify additional parameters not on the EMPPL that may have been present in the effluent (see Table 4 in the appendix).

The data generated from the pre-regulation study would be used as the main database for monitoring parameter selection during the Regulation period.

In addition to the pre-regulation monitoring program, a questionnaire was sent to each Sector facility to obtain site information on processes, products, raw materials used, liquid effluent treatment systems, sampling, sampler types used and flow measurement methods (11).

Historical data, where available, was used to supplement the pre-regulation monitoring database. The following databases were used as sources of additional data;

Environment Canada's Cornwall Point Source Studies (5);

Environment Canada's St. Clair River Point Source Studies (3);

Environment Canada's study of the Canadian Fertilizer Industry and Evaluation of Control Technologies (7);

Environment Canada's Upper Great Lakes Connecting Channel Study (6);

Environment Canada's Review of the Canadian Chlor-Alkali Industry (4);

NIAMIS (Niagara River Monitoring Information System) (8);

IMIS (Industrial Monitoring Information System) (2);

U.S. EPA Development Document for the Inorganic Chemical Industry (9);

U.S. EPA Development Document for the Explosives Industry (12);

U.S. EPA Development Document for the Fertilizer Industry (13)

VIII CLASSIFICATION OF STREAMS

There are seven classifications of effluent streams specified for the Inorganic Chemical Sector:

Process;
Combined;
Batch discharge;
Once-through cooling water;
Storm water;
Waste Disposal Site;
Emergency Overflow.

Process effluent:

These streams are subject to the most stringent requirements for monitoring and flow measurement because they have the greatest potential for impact on the environment. Composite sampling is specified for all process streams. Where a composite sampler is not in use, the Regulation allows for the collection of eight grab samples over twenty-four hours in lieu of the composite sample.

Flow measurement accuracy for these streams is specified as +/- 5% for the primary element and +/- 2% of full scale for the secondary element. Where flow measuring devices are presently in place on effluent streams an accuracy of +/- 15% is permitted.

Daily, thrice weekly, weekly and monthly monitoring requirements are specified for these streams.

Combined effluent:

These are streams with a mix of process effluent or process materials with once-through cooling water. This classification arose because there are many unsegregated streams in the Sector which are mixed with spent once-through cooling water before final discharge. Monitoring requirements are similar to those for process effluent except for flow measurement where an accuracy of +/-20% is specified. The impact of combined effluent on the environment should generally be smaller than that for process effluent. The relaxation of the flow accuracy reflects the economic concerns of the Sector. New highly accurate flow measuring devices would be wasted on these streams which would likely be segregated under the limits regulation.

Batch discharge:

The volumes of effluent discharged for these streams are generally small and result mainly from sumps holding floor washings and from

spills. The total volume of effluent discharged is to be estimated within an accuracy of +/- 20%. Monitoring parameters were selected on the basis of chemical use within the process area. One grab sample per discharge is specified for these effluent streams.

Once-through cooling water:

Monitoring of once-through cooling water streams is required only on a monthly basis because contamination from these streams should be minimal. A selected number of monitoring parameters are specified based on the potential for contamination from the process side. A minimum of 3 grab samples collected over a twenty-four hour period are permitted, with a flow accuracy of +/- 20% specified.

Storm water:

One grab sample per month is required for all final storm water effluent to determine the impact of storm run-off from developed areas of the plants. An estimate of the total volume discharged during the storm event is required. Selection of monitoring parameters was based on the potential for the presence of contaminants in the storm water run-off.

Waste disposal:

To determine the extent of site effluent contamination from waste disposal site run-off, a monthly grab sample is specified. An estimate of the total volume discharged is required. Monitoring parameters were selected to reflect the nature of the waste material.

Emergency Overflow:

Emergency overflows are process effluent, combined effluent or batch discharges which by-pass their intended destination because of unforeseen emergencies and end up going directly to a surface watercourse. The purpose of monitoring these streams is to estimate the impact on the environment and to record the number of such occurrences for possible remedial action.

Selection of the monitoring parameters was based on what would normally be present in the streams if there was no overflow. An estimate of the total volume discharged is required.

IX MONITORING FREQUENCIES FOR THE SECTOR

There are four basic routine monitoring frequencies required for the Sector, - daily, thrice weekly, weekly and monthly.

Monitoring frequencies of combined effluent streams were less stringent if all contributory process streams were monitored at the required frequencies. Where a parameter is being monitored at a frequency greater than that required for the Regulation, the most stringent frequency was maintained.

Event driven streams such as storm and waste disposal site effluent have intermittent flows and thus only need to be sampled monthly at this time. This will provide an estimation of potential impact in comparison to process and combined effluent streams.

Once-through cooling water streams should have no environmental impact. However monthly monitoring is required as a check for possible leaks in heat transfer equipment.

Emergency overflows are to be monitored at time of discharge. Monitoring emergency overflows will provide an estimate of the impact on the environment of these occurrences for possible future remedial action.

Daily parameter concentrations when multiplied by flow will provide daily loadings. Parameters chosen are usually conventional parameters which may act as surrogates for other contaminants. These parameters which may be indicators of treatment effectiveness and process upsets may require control.

Continuous on-line analysis for pH and specific conductance is the preferred method of monitoring for final discharges to the watercourse.

On-line instrumentation will:

- measure short term spikes-shock loads;
- allow determination of effluent variability by providing a clear picture of the variation of the recorded parameters with time;
- record shock loads when they occur;
- eliminate problems resulting from the storage of samples;
- allow for the use of an alarm system for warning when high levels of a contaminant occur.

Data from daily monitoring will be used to calculate operational variability and to establish the daily versus monthly variability for establishing future daily limits in relation to monthly limits.

Thrice weekly monitoring will provide twelve data points for calculating monthly averages for both conventional and priority pollutants.

In all cases for the same mean and standard deviation, the 95th percentile confidence limits will be narrowed about the mean with increasing sample size i.e. larger sample sizes yield less variable estimates of the mean.

The thrice weekly monitoring data will be used to,

- calculate monthly loadings and concentrations;
- provide a record of parameter variability including manufacturing process load variations, treatment plant upsets and spills;
- establish a basis of comparison for parameters monitored at other frequencies;
- aid in identifying parameters that require control and point to appropriate treatment technology;
- provide a basis for comparison of plants within the Sector;
- establish a basis for inter-sector comparison of loadings for these parameters;
- establish the performance of plants in comparison to Best Available Technology (Economically Achievable) (BAT(EA)) designated plants and to U.S. EPA reference limits.

Weekly monitoring requirements are an economic and technical compromise between thrice weekly and monthly data. The weekly monitoring data will provide estimates of both concentrations and loadings which will assist in defining any future monitoring and limits requirements.

Monthly monitoring of relatively long lists of parameters is required to establish the presence or absence of contaminants of concern. The concentration data will be used in conjunction with flow measurement data to estimate annual loadings for each of the compounds detected. Monthly monitoring may also be used in the interpretation of toxicity data and in the eventual development of limits.

Monthly monitoring for selected analytical test groups is also required to determine the presence or absence of contaminants in the analytical test group. These analytical test groups are selected on the basis that at least one contaminant in the analytical test group is being monitored on a daily, thrice-weekly or weekly basis. Analytical test groups are comprised of similar compounds so that the presence of one member may be indicative of other members being present.

Monthly monitoring for the whole group is a cost effective way of determining the presence/absence of contaminants which are chemically similar since it avoids the need for specifying more frequent analysis of test groups where no evidence exists for their presence in an effluent stream.

X General Sector Requirements - Process, Combined and Batch Effluent Streams

All Inorganic Chemical Sector Sites are required to monitor the following conventional parameters on process, combined and batch effluent streams at the specified frequencies (see Table 3 in the Appendix for the general rules used for setting the frequency assignment);

Daily:	pH, Total Suspended Solids (TSS), and Specific Conductance.
Weekly:	Oil & Grease (O&G), Phosphorus, Dissolved Organic Carbon (DOC).

For all final discharge sampling points continuous on-line analysis is preferred for pH and Specific Conductance. This will provide a continuous record of general site and control performances with uninterrupted real time information of general plant effluent impacts on the environment.

The following section describes the need for the monitoring of these general parameters and their potential impact on the environment;

Daily:

pH

* is a measure of the degree of acidity/alkalinity of an effluent;
* daily monitoring will provide a record of the operational variability for this parameter;
* pH is a fundamental parameter for the inorganic chemical industry which processes soluble acids and bases;
* may indicate process upsets and spills;
* may affect toxicity of certain parameters such as metals and ammonia;
* presently monitored at majority of sites under the IMIS program;
* extremes of pH may cause stress or mortality on aquatic organisms;
* Provincial Water Quality Objective's (PWQO's) require pH to be within 6.5-8.5 for receiving waters (14).

TSS

* gross measure of suspended material which may contain both organic and inorganic substances;
* daily monitoring will provide a record of the operational variability for this parameter;
* TSS is a fundamental parameter for the inorganic chemical industry which processes inorganic solids;
* presently monitored at the majority of sites;
* indicator of settling efficiency for Sector plants with settling basins;
* may impair growth of bottom fauna and impacts spawning grounds for fish;
* solids containing organic materials may

deplete bottom oxygen levels to produce noxious gases such as methane;

* aesthetically displeasing;

* may serve as a transport medium for pesticides, bacteria, viruses and other readily adsorbed organic substances;

* may block fish gills.

Specific Conductance

* indicator of total amount of dissolved solids;

* daily monitoring will provide a record of the operational variability for this parameter;

* Specific Conductance is a fundamental parameter for the inorganic chemical industry where soluble ionic species are present;

* high dissolved solids may alter the toxicity of heavy metals and organic compounds due to the antagonistic effect of water hardness on metals;

* high dissolved solids may cause bladder and intestinal irritations;

* high dissolved solids may accelerate corrosion and cause foaming in industrial boilers.

Weekly:

Dissolved Organic Carbon (DOC)

* measure of the amount of dissolved organic substances;

* weekly monitoring provides an estimate of the loadings and variability of organic contaminants primarily originating from the general use of organic solvents in the Sector. Data will assist in defining any future monitoring and limits requirements;

* provides more precise understanding of the nature of oxygen depleting compounds than COD and BOD;

* provides a basis for inter-sector comparisons.

DOC is required to be monitored at a reduced frequency of once per month for one site in the Sector because the plant is inactive and is being decommissioned.

Oil & Grease (O&G)	*	measure of groups of substances whose common characteristic is their preferential partitioning from water into hexane and freon (freon is a trade mark for Du Pont Canada.);
	*	weekly monitoring will provide an estimate of the potential losses of lube oils and greases from process equipment;
	*	produces an oxygen demand;
	*	floating oil may interfere with aeration and photosynthesis;
	*	soluble and emulsified material ingested by fish may taint flavour of fish flesh;
	*	aesthetic enjoyment may be impaired by surface slicks;
	*	deposition of oil on bottom sediments may interfere with benthic growth;
	*	may destroy algae and plankton, and block fish gills.
Phosphorus	*	weekly monitoring is specified for all final discharges to provide estimates of monthly average loadings to the International Joint Commission;
	*	may cause excessive plant growth in rivers and streams when concentration is greater than 30 micrograms/L;
	*	Phosphorus in elemental form is toxic to fish and bioaccumulative.

XI SITE-SPECIFIC MONITORING REQUIREMENTS

The sector-wide general monitoring scheme specified in the previous section for conventional parameters is considered to be a minimum requirement for the Sector since these parameters alone do not provide complete data on effluent quality. Selected plants are

required to monitor for additional conventional parameters to account for site-specific situations.

Monitoring for priority pollutants is also determined on a site - specific basis. A priority pollutant is specified for a particular stream if it has been detected once in pre-regulation monitoring sampling, historical data or Ministry audit sampling. Best professional judgement is also used in listing a compound where knowledge of raw materials, by-products and process operation would indicate presence in the effluent.

Parameter and frequency selection for these site-specific conventional and priority pollutants are based on the following rationale.

Daily:

These parameters were selected on the basis that they continuously exist in selected site-specific effluent and are related to the raw materials and products processed at these facilities. Data generated will provide a record of the operational variability and daily loadings for site-specific parameters.

a) - Conventionals

Nitrogen

* daily monitoring required for this group for effluent from all nitrogen based fertilizer facilities;

* fundamental parameter for nitrogen based fertilizer facilities and is presently monitored at this frequency under the IMIS program;

* Total Ammonia
    - measure of both ionized and unionized ammonia;
    - unionized ammonia at levels greater than 0.02 mg/L is toxic to fish;
    - may cause eutrophication;
    - PWQO is 0.02 mg/L for unionized ammonia (14);

* Total Kjeldahl Nitrogen
    - measure of both ammonia and organic nitrogen (usually urea);
    - may cause increased plant and algae growth in receiving waters;
    - may produce a slight oxygen demand on the receiving stream;

	*	Oxidized Nitrogen - measure of the oxidized nitrogen (nitrate plus nitrite); - excessive nitrates may cause irritation of the mucous linings of the gastrointestinal tract and the bladder; - provincial maximum acceptable drinking water concentration for nitrates is set at 10 mg/L (17);
	*	U.S. EPA limits ammonia on a daily basis for nitrogen fertilizer facilities.
Phosphorus	*	daily monitoring required for all phosphate based fertilizer facilities and producers of phosphorus related products;
	*	fundamental parameter for sites producing phosphate fertilizers and phosphorus related products;
	*	presently monitored at this frequency under the IMIS program;
	*	phosphorus in elemental form may be toxic and bioaccumulative;
Fluoride	*	daily monitoring required for all phosphate fertilizer facilities;
	*	fluoride is a contaminant in phosphate rock and is a fundamental parameter for the phosphate fertilizer industry;
	*	presently monitored at this frequency under the IMIS program;
	*	at concentrations of 10-15 mg/L chronic poisoning of livestock can occur.

b) - Priority Pollutants

Mercury	*	daily monitoring required for all chlor-alkali facilities using the mercury cell process (one plant in the Sector);

* fundamental parameter for this industry;

* U.S. EPA limits mercury on a daily basis for chlor-alkali plants using the mercury cell process;

* presently monitored at this frequency under the IMIS program;

* PWQO of 0.5 microgram/L for mercury (14);

* the provincial maximum acceptable drinking water concentration for mercury is 1 microgram/L (17).

Thrice weekly:

Parameters were selected on the basis that their concentration in specific effluent streams exceeded certain water quality standards such as PWQO's (14), U.S. EPA BAT(EA) Performance Data (15) or New York State Water Quality Objective's (16). Selection was also made based on the knowledge that parameters were regulated in other jurisdictions such as the United States.

<u>a) - Conventionals</u>

Nitrogen

* thrice weekly monitoring is required for all facilities, other than nitrogen based fertilizer plants, where concentrations in the effluent of Total Ammonia, Kjeldahl Nitrogen or Oxidized Nitrogen exceed 10 mg/L;

* see comments under Daily for specific information on the environmental affects of these nitrogen compounds.

Phenolics (4AAP)

* for all facilities where the total phenolics concentration in the effluent was greater than 10 microgram/L (the U.S. EPA BAT(EA) long term median concentration for phenol), monitoring is required for total phenolics as measured by the 4-amino anti-pyrine method (4AAP);

* tainting of fish flesh may occur when the phenol level is greater than 1 microgram/L;

	*	PWQO requires phenol to be less than 1 microgram/L (14).
Sulphate	*	required for all facilities where concentrations of sulphate exceed the provincial maximum desirable concentration for drinking water of 500 mg/L (17);
	*	presence in drinking water may have a noticeable effect on taste;
	*	may contribute to scale in boilers and heat exchangers.
Dissolved Organic Carbon (DOC)	*	required on a thrice weekly basis for one facility in the Sector which in addition produces organic chemicals;
	*	required to measure the variability of operations at that site.
Fluoride	*	required for all facilities where fluorspar and hydrofluoric acid are processed;
	*	at concentrations of 10-15 mg/L chronic poisoning of livestock can occur;
	*	the provincial maximum acceptable drinking water concentration for fluoride is 2.4 mg/L (17).
Chloride	*	Required for all facilities where concentrations of chloride exceed the Ministry's maximum desirable concentration for drinking water of 250 mg/L (17);
	*	may impart undesirable taste to drinking water;
	*	may contribute to scaling and corrosion of equipment and piping.

b) - Priority Pollutants

The U.S. EPA BAT(EA) long term median data for the Organic Chemicals, Plastics and Synthetic Fibers Category (OCPSF) (see Table 6 in the appendix)(15) were used as a source of reference for assigning monitoring frequencies to priority pollutants on the Sector List. Where no data was available in the U.S. EPA BAT(EA) data source or Ministry PWQO's (14), New York State Water Quality Objectives were used (16). The thrice weekly data would provide twelve data points for calculating monthly averages.

Priority pollutants were assigned thrice weekly monitoring when their concentration measured in pre-regulation monitoring data was greater than the U.S. EPA long term median average concentration for BAT(EA) option 1.

The U.S. EPA BAT(EA) data for similar inorganic facilities could not be used due to the limited database available. In addition contaminant levels are expressed in terms of pollutant loadings per unit of production. A comparison therefore could not easily be made between U.S. BAT(EA) data for inorganic chemical facilities and contaminant concentrations measured in the pre-regulation monitoring program. The U.S. EPA BAT(EA) data for the OCPSF Sector were therefore used as a basis for comparison.

Option 1 was chosen as a reference since it covers effluent that contain relatively small loadings of organic contaminants and specifies tighter limits for inorganic parameters which is appropriate for this Sector. The levels for inorganic contaminants were verified and found to be consistent with performance data published by the U.S. EPA for fourteen major treatment processes (18). Option 1 reflects end of pipe treatment which in all practicality may apply to the Sector.

The selection of priority pollutants for monitoring at this frequency based on the long term median data is reasonable, since the long term median tends to represent the level to which current Best Available Technology (Economically Achievable) will remove priority pollutants.

Weekly:

Parameters required for monitoring at this frequency were selected on the basis of their detection in site-specific effluent but at concentrations lower than the levels required for thrice weekly monitoring.

Data obtained from weekly monitoring will provide estimates of both concentrations and loadings which will assist in defining any future monitoring and limits requirements.

a) - Conventionals

Nitrogen:	*	weekly monitoring is required for non-nitrogen based fertilizer facilities, where the concentration of total ammonia, total Kjeldahl nitrogen or total oxidized nitrogen is above the detection limit but less than the 10 mg/L specified earlier for thrice weekly monitoring;
	*	see comments under the Daily frequency section for specific information on the environmental effects of these nitrogen compounds.
Phenolics	*	for all facilities where the concentration of total phenolics is above the method detection limit detection and less than 10 microgram/L;
	*	see comments under the Thrice Weekly frequency section for information on environmental affect of this compound.

b) - Priority Pollutants

	*	for all facilities where the concentration in effluent exceeded the method detection limit but was less than the long term median data specified in Table 6.

Monthly:

Monitoring for selected analytical test groups is specified where data from the EPA, Environment Canada studies on similar manufacturing facilities or historical data have indicated the presence of at least one contaminant from the test group in the effluent.

Consideration is also given to the types of raw materials used in the process, by-products generated and products manufactured at a site. If there is reason to believe that contamination may originate from raw materials, by-products and products, a monthly monitoring check was specified for the appropriate parameters.

Once-Through Cooling Water

All once-through cooling water streams are required to be monitored on a monthly basis. As these streams are normally uncontaminated,

monthly monitoring is sufficient as a check for process leaks that could develop in process heat transfer equipment.

All once-through cooling water streams will be monitored for

pH, DOC, Specific Conductance, TSS, Phosphorus and Oil & Grease.

Additional parameters will be specified for site-specific situations where consideration is given to the potential for contact with process materials.

Storm Water and Waste Disposal Site Effluent

Monthly monitoring of waste disposal site and storm water effluent is required to estimate the degree of contaminant loadings to surface watercourses as a result of storm runoff from plant sites. The purpose of monitoring these sources is to identify the frequency and magnitude of these events and to determine if more intensive monitoring or corrective action is required. An assessment can also be made to determine the need for specific "best management practices" at certain sites.

Dischargers will be required to take a grab sample during one storm event each month when the rainfall exceeds 5 mm and to estimate the total flow at the time of sampling. They will also be required to monitor runoff from two thaw events from January to May in order to estimate the impact on the environment from snow-melt conditions. Monitoring parameter selection is based on the parameters being monitored in the plants process and combined effluent streams, and on the potential for contamination from on-site storage areas.

Emergency Overflow

Parameter selection for monitoring is based on the monitoring parameters required for the process or combined effluent streams. Dischargers will be required to sample at the time of discharge. Data generated will be used to determine the potential impact on the environment from these events and the type of remedial action necessary.

XII CHARACTERIZATION

Characterization is the quantitative determination of individual organic and inorganic parameters from the Sector List which is a subset of EMPPL.

Characterization will provide information on the presence or absence of an extensive number of contaminants in process, combined and batch discharge effluent in the Sector.

The Sector List for the Inorganic Chemical Sector containing 151 contaminants is shown in Table 2 of the appendix.

The goal of characterization for the Inorganic Chemical Sector is to detect any frequently occurring contaminants not already identified with greater than 99% probability of success.

The majority of sites in the Inorganic Chemical Sector by virtue of the products manufactured, use raw materials that are naturally occurring, relatively non-toxic substances.

To accommodate differences among Sector plants and achieve the goal of characterization with some consideration of costs, the Sector was divided into two sub-categories for characterization frequencies.

Sub-category A - simple process sites

Sub-category B - complex process sites.

Placement of sites in the specific sub-category was based on the following :

(1) number of product types manufactured at a site (single or multi product);

(2) process complexity (simple or relatively complex);

(3) environmental history of a site;

(4) availability of relevant historical characterization data;

(5) process variability and;

(6) product/raw material type.

Table 7 in the Appendix lists companies in each sub-category.

Sub-category A companies are required to perform two characterizations during the life of the Regulation while sub-category B companies are required to do four.

For the pre-regulation monitoring program, each company conducted four characterizations for the EMPPL list of contaminants on all process and combined effluent streams. In addition the Ministry conducted a characterization of effluent at each site to give a total number of five characterizations per company for the pre-regulation monitoring program.

During the Regulation period, the Ministry plans to conduct two characterizations of all process and combined effluent streams. When combined with pre-regulation characterization data, the Ministry audit data and the Regulation characterization requirements of two and four, a total of nine and eleven characterization data sets result for sites in sub-category A and B respectively.

The probability of detecting less frequently occurring parameters that are present 1% of the time is less than 12% whether two, seven, eleven, or twelve characterizations are carried out (see Table 8 in the appendix).

Because of the high cost of analysis for analytical test group 24 and the low probability of the presence of the group members in the Inorganic Chemical Sector effluent, the Regulation has the following requirements for analytical test group 24. Plant sites which submitted four analyses for group 24 in the pre-regulation monitoring program and are required to perform four characterizations during the Regulation as members of sub-category B, are permitted to characterize their effluent for group 24 in the Regulation semi-annually. If only two analyses were performed during the pre-regulation monitoring program quarterly testing is required.

XIII OPEN CHARACTERIZATION

Open characterization is the identification of contaminants which are not on the Sector list. Gas chromatography/mass spectrometry is used to identify organic contaminants, and ICP (inductively coupled plasma) emission spectroscopy methods are used to identify inorganic contaminants. Open characterizations for the Inorganic Chemical Sector are required at the same frequency as characterizations for the Sector List.

Additional contaminants which are identified in open characterizations will be subject to a hazard assessment for possible future addition to the EMPPL list.

The EMPPL list will be continually updated as the screening program proceeds.

The open characterizations conducted during the pre-regulation monitoring program identified parameters which were not on the EMPPL. These parameters are presently being assessed for possible

future addition to the EMPPL. The Inorganic Chemical Sector List will be updated accordingly.

Two Ministry publications entitled "Guidance Document For The Elemental Characterization of Liquid Waste Samples" (19) and "Techniques For The Gas Chromatography-Mass Spectrometry Identification of Organic Compounds In Effluents" (20) describe in detail the protocols and procedures for performing these tests.

XIV TOXICITY TESTING

Toxicity testing is used to assess the potential impact of complex effluent on the aquatic environment. Two types of tests are specified for the Sector - The Rainbow Trout Acute Lethality Test and The Daphnia magna Acute Lethality Test. Data generated from the toxicity tests will be used to assess the potential impact of complex whole effluents on the environment, to establish a data base on the numerical median lethal concentrations (LC50) of each effluent discharge, to provide an understanding of the connection between chemical analytical results and toxicity results and to make comparisons between data generated for Daphnia magna and rainbow trout tests.

Two Ministry publications specify the protocols to be followed for the toxicity tests:

"Protocol to Determine the Acute Lethality of Liquid Effluents to Fish" (21) and "Daphnia magna Acute Lethality Toxicity Test Protocol" (22).

For the Inorganic Chemical Sector toxicity testing is required on all final discharges. Frequency of testing will be monthly. For the trout test the following requirement is specified in the Regulation. If after the first three months of conducting the full LC50 trout test no more than two fish die in any effluent concentration, in each monthly test, the following nine monthly trout tests may be performed as pass/fail tests on 100% effluent. However if any of the pass/fail tests result in fish mortality greater than two, the full LC50 must be resumed for the next three months. Resumption of the pass/fail test is permitted after the three months if each of these three additional full dilution tests result in no more than two fish mortalities in any effluent concentration.

The Daphnia magna test does not have any allowance for using the pass/fail tests and full dilutions are required for each of the monthly tests.

Once-through cooling water is required to be analyzed for toxicity on a quarterly basis. However as once-through cooling water is normally expected to be non-lethal, an allowance is permitted for

cases where the first quarterly LC50 test results in mortality for no more than two out of ten test organisms. The remaining three tests may be carried out on 100% effluent only for both the rainbow trout and Daphnia magna tests.

Pre-adjustment of effluent samples to eliminate known toxic contaminants has been suggested where it is known in advance that the effluent is acutely lethal, due to recognized contaminants such as ammonia, chlorides and extremes of pH. The Sector companies felt that the usefulness of the toxicity test could be improved to identify unknown toxic effects if the known toxic component could be removed prior to the test being performed. The Ministry's position is that pre-adjustment of samples is not permitted for the following reasons;

- adjusting the sample for known parameters may interfere with other unknown toxic contaminants in the sample. For instance where there is continuously high ammonia levels in an effluent, by selectively removing this parameter before performing the toxicity test other unknown contaminants may be removed (e.g. volatiles) in the process, thus altering the toxic nature of the sample.

- a toxicity database is required for the Sector to provide a basis for setting toxicity limits under the Compliance Regulation. An assessment is required to determine the level of toxicity that presently exists within the Sector and this information will be used in the setting of the limits.

- adjusting the sample does not simulate any real situation in the environment

The Ministry however, will accept toxicity data on pH adjusted samples outside of the Regulation for comparison with unadjusted samples. The testing would be voluntary and would be performed in conjunction with the regulated tests for unadjusted samples. The Ministry has prepared a document entitled "Guidelines for pH Adjustment of Effluent Samples for Toxicity Testing " specifying the procedures to be followed for conducting pH adjusted tests.

XV QUALITY ASSURANCE/QUALITY CONTROL

Quality assurance and quality control (QA/QC) encompasses all of the procedures undertaken to ensure that data produced are generated within known probability limits of accuracy and precision.

Quality assurance is the overall verification program which provides producers and users of data the assurance that predefined standards of quality at predetermined levels of confidence are met. Quality assurance is comprised of quality control and quality assessment.

Quality control is the overall system of guidelines, procedures and practices which are designed to regulate and control the quality of products or services with regards to previously established performance criteria and standards.

Quality assessment is the overall system of activities which ensure that quality control is being performed effectively. This is carried out immediately following quality control and involves evaluation and auditing of quality control data to ensure the success of the quality control program.

QA/QC is one of the most important aspects of the MISA monitoring regulations. The QA/QC program includes many small but essential activities ranging from proving the cleanliness of sample bottles, using proper sampling equipment, containers and preservatives to instrument calibration; validation of authenticity of standards, inclusion of blanks, spikes and controls in analytical runs to documenting performance; participation in external round-robins to defining the proper method for reporting a final data number. Omission of one of these activities can lead to unreliable data resulting in improper conclusions and perhaps inappropriate actions.

The financial stakes riding on the Monitoring Regulation data are too high to compromise the generated date with inadequate QA/QC.

XVI ECONOMIC CONSIDERATIONS

The monitoring and abatement requirements of the MISA program will require both operating and capital expenditures. The Policy and Planning Branch of the Ministry has produced two reports which will assess the economic environment of the Inorganic Chemical Sector and will analyze the financial implications of the incremental costs of monitoring imposed by the MISA monitoring requirements.

The first report is entitled "The Economic and Financial Profile of the Ontario Inorganic Chemicals Industry"(23), prepared by Woods Gordon Management Consultants, August 1987, and summarizes the key features of the inorganic chemical industry in Canada and in Ontario.

The inorganic chemical industry is a fairly small, but growing part of the Canadian chemicals industry, accounting for about $2.2 billion of the total $18.3 billion in value of 1985 shipments for the Canadian Chemical and Chemical Products industry. Firms in the inorganic chemical industry tend to be capital intensive, vertically integrated, and produce inorganic chemicals as inputs into other manufactured products. Most of the firms in this Sector are foreign-owned.

Much of the output of the inorganic chemicals industry in Ontario is destined for the export market. While the total world demand for inorganic chemicals is thought to be price inelastic, the demand facing export-orientated Ontario producers is likely to be quite elastic.

The second report is entitled "Monitoring Costs and Their Implications for Direct Dischargers in the Ontario Inorganic Chemical Industry"(24), Policy and Planning Branch, June 1989, and presents estimates and implications of the incremental costs of monitoring to plants within the Sector.

The following table lists, by monitoring function, the estimated incremental cost estimates, rounded to millions of dollars, based on the sector-specific monitoring schedules for the 22 plants in the Inorganic Chemical Sector.

		($Millions)	
	Capital	Operating	Total
Sampling	$0.8	$1.1	$1.9
Characterization	$0.0	$0.4	$0.4
Routine Analyses	$0.1	$2.4	$2.5
Toxicity Testing	$0.0	$0.2	$0.2
Flow Measurement	$0.5	$0.0	$0.5
Reporting	$0.0	$0.1	$0.1
TOTAL	$1.5	$4.1	$5.6

These estimates indicate that the estimated incremental capital and operating costs are about $5.6 million for this Sector (totals may not add due to rounding).

In response to Ministry requests, 17 of the 22 plants in the Sector provided some cost estimates. The Ministry calculated the monitoring costs associated with routine analyses, characterization and toxicity testing based on site-specific monitoring requirements and a common set of laboratory analytical costs.

These costs are point estimates and are subject to varying degrees of uncertainty. Using a confidence measure of +/- 20%, the total incremental costs of the Regulation could vary by +/- $1.1 million.

If the Regulations had required a common monitoring list for all effluent discharge points, the operating costs for routine analyses would be approximately $21.7 million. This represents a difference of $19.4 million, which can be viewed as a measure of the cost-effectiveness of the pipe-specific approach used for this Sector.

The above costs do not include the costs of current analytical and monitoring programs which are not directly attributable to the Inorganic Chemical Sector monitoring regulation.

Plant-specific data are seldom available although it is at this level that financial consequences affect the viability of an operation and influence decisions. Thus, the economic effects and implications of incremental monitoring costs have been assessed for only 8 of the 19 companies in the Inorganic Chemical Sector for which financial data are publicly available. These eight companies are: Allied Chemicals Canada, C-I-L Inc., Cyanamid Canada Inc., The Exolon-ESK Company of Canada Ltd., Fiberglas Canada Inc., Nitrochem Inc., Norton Canada Inc. and Union Carbide Canada Limited.

The impact of the MISA cost of monitoring on these eight firms was calculated with respect to four performance measures, capital expenditures, net after-tax income(loss), and the rates of return on capital employed and total assets over the period 1981-1987. For these analyses, the operating costs of monitoring were first reduced by the amount of the appropriate corporate tax rate bvecause part of these costs are offset by reduced income taxes.

The incremental operating costs of monitoring would have reduced average ratios for the eight firms by 1% or less. This reduction is well within the historic variation of these ratios for all of the companies and is judged not to be significant.

The incremental operating costs of monitoring represent anywhere from 0.5% (Fiberglas) to 10.1% (Norton) of average after-tax income. Three of the firms posted average after-tax losses over this period and their incremental operating costs would have increased these average losses by 4.5% (Union Carbide), 11.3% (Nitrochem) and 37.8% (Exolon-ESK). None of these firms have indicated that these costs will cause an undue burden.

The incremental capital costs of monitoring represent 0.3% (Union Carbide) to 5.4% (Nitrochem) of average capital expenditures. These effects are not judged to be detrimental to the firm's financial position.

Finally, the economic impacts of the estimated monitoring costs on the Inorganic Chemical Sector are small in relation to aggregate industry financial indicators. The monitoring requirements may also enhance employment opportunities for consultants, analytical laboratories and equipment manufacturers.

REFERENCES

(1) Statistics Canada, Standard Industrial Classification - 1980.

(2) Ontario Ministry of the Environment, "1987 Report on the Industrial Direct Discharges in Ontario", October 1988.

(3) Environment Canada, "St. Clair River Point Source Survey, 1979-1980", September 1985.

(4) Environment Canada, "Review of the Canadian Chlor-Alkali Industry", October 1985.

(5) Environment Canada, "Cornwall Point Source Survey 1980-1981"

(6) Environment Canada, "Upper Great Lakes Connecting Channel Study", June 1988.

(7) Environment Canada, "Review of the Canadian Fertilizer Industry and Evaluation of Control Technology", September 1987.

(8) Ontario Ministry of the Environment, "Niagara River Monitoring Information System Reports", 1981-1987.

(9) U.S. Environmental Protection Agency, "Development Document for Effluent Limitations Guidelines and Standards for the Inorganic Chemicals Manufacturing Point Source Category" June 1982.

(10) Ontario Ministry of the Environment, "The Effluent Monitoring Priority Pollutants List - 1988 Update", March 1989.

(11) Ontario Ministry of the Environment, MISA Inorganic Chemical Sector Site Information Package, unpublished.

(12) U.S. Environmental Protection Agency, "Development Document for Interim Final Effluent Limitations Guidelines and Proposed New Source Performance Standards for the Explosives Manufacturing Point Source Category".

(13) U.S. Environmental Protection Agency,"Development Document for Effluent Limitations Guidelines and New Source Performance Standards for the Basic Fertilizer Chemicals Segment of the Fertilizer Manufacturing Point Source Category".

(14) Ontario Ministry of the Environment, "Water Management: Goals, Policies, Objectives and Implementation Procedures of the Ministry of the Environment', November 1978 (Revised May 1984).

(15) U.S. Federal Register (40 CFR Parts 414 and 416) November 5, 1987.

(16) New York State Department of Environmental Conservation, "Water Quality Regulations", New York State Codes, Rules and Regulations, Title 6, Chapter X, Parts 700-705.

(17) Ontario Ministry of the Environment, "Ontario Drinking Water Objectives" (Revised, 1983)

(18) U.S. Environmental Protection Agency, " Treatability Manual, Treatability Data", September 1981 (Revised)

(19) Ontario Ministry of the Environment, "Guidance Document for the Elemental Characterization of Liquid Waste Samples", November 1988

(20) Ontario Ministry of the Environment, "Techniques for the Gas Chromatography-Mass Spectrometry Identification of Organic Compounds in Effluents", November 1988

(21) Ontario Ministry of the Environment, "Protocol to Determine the Acute Lethality of Liquid Effluents to Fish", July 1988.

(22) Ontario Ministry of the Environment, "Daphnia magna" Acute Lethality Toxicity Test", April 1988.

(23) Woods Gordon Management Consultants, "The Economic and Financial Profile of the Inorganic Chemicals Industry", August 1987.

(24) Ontario Ministry of the Environment, "Monitoring Costs and Their Implications for Direct Dischargers in the Ontario Inorganic Chemical Industry", June 1989.

APPENDIX

TABLE 1 - EFFLUENT MONITORING PRIORITY POLLUTANTS LIST (EMPPL) (1988 UPDATE)

EMPPL PARAMETERS	CAS #	ANALYTICAL TEST GROUP #
Abietic Acid	514-10-3	-
Acenaphthene	83-32-9	19
Acenaphthene, 5-nitro	602-87-9	19
Acenaphthylene	208-96-8	19
Acridine	260-94-6	-
Acrolein	107-02-8	18
Acrylamide	79-06-1	-
Acrylonitrile	107-13-1	18
Aluminum	7429-90-5	9
4-Aminoazobenzene	60-09-3	-
Aniline	62-53-3	-
Anthracene	120-12-7	19
Antimony	7440-36-0	10
Aroclor 1016 (PCB)	12674-11-2	27
Aroclor 1221 (PCB)	11104-28-2	27
Aroclor 1232 (PCB)	11141-16-5	27
Aroclor 1242 (PCB)	53469-21-9	27
Aroclor 1248 (PCB)	12672-29-6	27
Aroclor 1254 (PCB)	11097-69-1	27
Aroclor 1260 (PCB)	11096-82-5	27
Arsenic	7440-38-2	10
Benzaldehyde	100-52-7	-
Benz(a)acridine	225-11-6	-
Benz(a)anthracene	56-55-3	19
Benzene	71-43-2	17
Benzeneacetonitrile	140-29-4	-
Benzidine	92-87-5	-
1H-Benzimidazole	51-17-2	-
Benzo(b)fluoranthene	205-99-2	19
Benzo(k)fluoranthene	207-08-9	19
Benzo(g,h,i)perylene	191-24-2	19
Benzo(a)pyrene	50-32-8	19
Benzo(h)quinoline	230-27-3	-
Benzo(b)thiophene	95-15-8	-
Benzyl alcohol	100-51-6	-
Beryllium	7440-41-7	9
Biphenyl	92-52-4	19
Borneol	507-70-0	-
Boron	7440-42-8	9
1-Bromo-2-chloroethane	107-04-0	-
Bromodichloromethane	75-27-4	16
Bromoform	75-25-2	16
Bromomethane	74-83-9	16

TABLE 1 - EFFLUENT MONITORING PRIORITY POLLUTANTS LIST (EMPPL) (1988 UPDATE)

EMPPL PARAMETERS	CAS #	ANALYTICAL TEST GROUP #
p-Bromophenol	106-41-2	-
4-Bromophenyl phenyl ether	101-55-3	19
1,3-Butadlene	106-99-0	-
Butanal	123-72-8	-
2-Butenolc acld	3724-65-0	-
2-(2-Butoxyethoxy)ethanol	112-34-5	-
Butylamlne	109-73-9	-
N-t-butyl-2-benzothlazolesulphenamlde	95-31-8	-
Butylbenzylphthalate	85-68-7	19
Cadmium	7440-43-9	9
Camphene	79-92-5	19
9H-Carbazole	86-74-8	-
Carbon Dlsulflde	75-15-0	-
Carbon tetrachloride	56-23-5	16
Chorinated dibenzofurans*	N/A	24
Chorinated dibenzo-p-dioxins*	N/A	24
Chlorobenzene	108-90-7	16
Chlorodehydroabletlc acld	57055-38-6	-
Chlorodibromomethane	124-48-1	16
Chloroform	67-66-3	16
Chloromethane	74-87-3	16
Bis(2-chloroethoxy)methane	111-91-1	19
Bis(2-chloroethyl)ether	111-44-4	19
Bis(2-chloroisopropyl)ether	108-60-1	19
Bls(chloromethyl)ether	542-88-1	-
4-Chloro-3-methylphenol	59-50-7	20
1-Chloronaphthalene	90-13-1	19
2-Chloronaphthalene	91-58-7	19
o-Chlorophenol	95-57-8	20
4-Chlorophenylphenyl ether	7005-72-3	19
Chromium	7440-47-3	9
Chrysene	218-01-9	19
Clneole	470-82-6	-
Cobalt	7440-48-4	9
Copper	7440-50-8	9
m-Cresol	108-39-4	20
o-Cresol	95-48-7	20
p-Cresol	106-44-5	20
Cyclohexanol	108-93-0	-
Cyclohexanone	108-94-1	-
Cyclohexylamlne	108-91-8	-
n-Cyclohexyl-2-benzothlazole sulphenamlde	95-33-0	-
Dehydroabletlc acld	1740-19-8	-

TABLE 1 - EFFLUENT MONITORING PRIORITY POLLUTANTS LIST (EMPPL) (1988 UPDATE)

EMPPL PARAMETERS	CAS #	ANALYTICAL TEST GROUP #
Dibenz(a,h)anthracene	53-70-3	19
2,6-Di-t-butyl-4-methylphenol	128-37-0	-
Di-n-butylphthalate	84-74-2	19
Di-n-octyl phthalate	117-84-0	19
1,2-Dichlorobenzene	95-50-1	16
1,3-Dichlorobenzene	541-73-1	16
1,4-Dichlorobenzene	106-46-7	16
3,3'-Dichlorobenzidine	91-94-1	-
1,4-Dichlorobut-2-ene	764-41-0	-
1,2-Dichlorobut-3-ene	760-23-6	-
Dichlorobutene (mixture)	11069-19-5	-
1,1-Dichloroethane	75-34-3	16
1,2-Dichloroethane	107-06-2	16
Cis-1,2-Dichloroethylene	156-59-2	-
Trans-1,2-Dichloroethylene	156-60-5	16
1,1-Dichloroethylene	75-35-4	16
4,5-Dichloroguaiacol	2460-49-3	-
2,4-Dichlorophenol	120-83-2	20
2,6-Dichlorophenol	87-65-0	20
1,2-Dichloropropane	78-87-5	16
Cis-1,3-Dichloropropylene	10061-01-5	16
Trans-1,3-Dichloropropylene	10061-02-6	16
1,2-Diethylbenzene (ortha)	135-01-3	-
1,3-Diethylbenzene (meta)	141-93-5	-
Diethyl phthalate (DEP)	84-66-2	-
n,n-Diethyl-m-toluamide (DEET)	134-62-3	-
5,6-Dihydro-2-methyl-1,4-oxathiin-3-carboxanilide	5234-68-4	-
5,6-Dihydro-2-methyl-1,4-oxathiin-3-carboxanilide-4,4-dioxide	5259-88-1	-
Dimethyl disulphide	624-92-0	-
Dimethylphenol	1300-71-6	-
2,4-Dimethylphenol	105-67-9	20
2,5-Dimethylphenol	95-87-4	-
2,6-Dimethylphenol	576-26-1	-
3,4-Dimethylphenol	95-65-8	-
3,5-Dimethylphenol	108-68-9	-
Dimethyl sulphide	75-18-3	-
4,6-Dinitro-o-cresol	534-52-1	20
2,4-Dinitrophenol	51-28-5	20
2,4-Dinitrotoluene	121-14-2	19
2,6-Dinitrotoluene	606-20-2	19
4,4'-Di-n-octyldiphenylamine	101-67-7	-

TABLE 1 - EFFLUENT MONITORING PRIORITY POLLUTANTS LIST (EMPPL) (1988 UPDATE)

EMPPL PARAMETERS	CAS #	ANALYTICAL TEST GROUP #
1,4-Dioxane	123-91-1	-
Diphenylamine	122-39-4	19
Diphenyl ether	101-84-8	19
Diphenylmethane-4,4'-diisocyanate (MDI)	101-68-8	-
Diphenyl 4,4'-methylenedicarbanilate	101-65-5	-
Ethanol	64-17-5	-
Ethylbenzene	100-41-4	17
Bis(2-Ethylhexyl)phthalate	117-81-7	19
Ethylene dibromide	106-93-4	16
Ethylene thiourea	96-45-7	-
Eugenol	97-53-0	-
Fluoranthene	206-44-0	19
Fluorene	86-73-7	19
Formaldehyde	50-00-0	-
Furfural	98-01-1	-
Guaiacol	90-05-1	-
Hexachlorobenzene	118-74-1	23
Hexachlorobutadiene (HCBD)	87-68-3	23
1,2,3,4,5,6-Hexachlorocyclohexane (gamma isomer) (Lindane)	58-89-9	-
Hexachlorocyclopentadiene	77-47-4	23
Hexachloroethane	67-72-1	23
Hydrazine	302-01-2	-
Hydrogen sulphide	7783-06-4	-
2-Hydroxybiphenyl	90-43-7	-
4-Hydroxybiphenyl	92-69-3	-
2-Hydroxy-3-methyl-2-cyclopenten-1-one	80-71-7	-
Indeno(1,2,3-cd)pyrene	193-39-5	19
Indole	120-72-9	19
Isopimaric acid	5835-26-7	-
Lead	7439-92-1	9
Levopimaric acid	79-54-9	-
Limonene	138-86-3	-
Lithium	7439-93-2	9
Mercaptobenzothiazole	149-30-4	-
2-Mercaptobenzothiazole disulphide	120-78-5	-
2-Mercaptoethanol	60-24-2	-
Mercury	7439-97-6	12
2,2-Methylenebis(6-nonyl)-p-cresol	7786-17-6	-
Methylene chloride	75-09-2	16
Methyl ethyl ketone	78-93-3	-
n-Methylformamide	123-39-7	-
Methylmethacrylate	80-62-6	-

TABLE 1 - EFFLUENT MONITORING PRIORITY POLLUTANTS LIST (EMPPL) (1988 UPDATE)

EMPPL PARAMETERS	CAS #	ANALYTICAL TEST GROUP #
1-Methylnaphthalene	90-12-0	19
2-Methylnaphthalene	91-57-6	19
2-Methylpyridine	109-06-8	-
Methyl styrene	25013-15-4	-
m-Methylstyrene	100-80-1	-
p-Methylstyrene	622-97-9	-
Molybdenum	7439-98-7	9
Morpholine	110-91-8	-
n-Morpholinyl-2-benzothiazole sulphenamide	102-77-2	-
Naphthalene	91-20-3	19
1-Naphthalenol	90-15-3	-
Neoabietic acid	471-77-2	-
Nickel	7440-02-0	9
Nitrobenzene	98-95-3	-
1-Nitronaphthalene	86-57-7	-
2-Nitronaphthalene	581-89-5	-
2-Nitrophenol	88-75-5	-
4-Nitrophenol	100-02-7	20
n-Nitrosodimethylamine	62-75-9	-
n-Nitrosodi-n-propylamine	621-64-7	19
n-Nitrosodiphenylamine	86-30-6	19
4-Nitrosomorpholine	59-89-2	-
Octachlorostyrene	29082-74-4	23
Oleic Acid	112-80-1	-
Pentachlorobenzene	608-93-5	23
Pentachlorophenol	87-86-5	20
Perylene	198-55-0	19
Phenanthrene	85-01-8	19
Phenol	108-95-2	20
n-phenylacetomide	103-84-4	-
Pimaric acid	127-27-5	-
Pine oil	8002-09-3	-
Potassium ethyl xanthate	140-89-6	-
Potassium hexyl xanthate	2720-76-5	-
Pyrene	129-00-0	19
Quinoline	91-22-5	-
8-Quinolinol	148-24-3	-
Selenium	7782-49-2	10
Silver	7440-22-4	9
Sodium butylxanthate	141-33-3	-
Sodium dimethyl dithio carbamate	128-04-1	-
Sodium ethylxanthate	140-90-9	-
Strontium	7440-24-6	9

TABLE 1 - EFFLUENT MONITORING PRIORITY POLLUTANTS LIST (EMPPL) (1988 UPDATE)

EMPPL PARAMETERS	CAS #	ANALYTICAL TEST GROUP #
Styrene	100-42-5	17
Tannic acid	1401-55-4	-
Tetrachloroacetone	31422-61-4	-
1,1,3,3-Tetrachloroacetone	632-21-3	-
1,2,3,4-Tetrachlorobenzene	634-66-2	23
1,2,3,5-Tetrachlorobenzene	634-90-2	23
1,2,4,5-Tetrachlorobenzene	95-94-3	23
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	24
1,1,1,2-Tetrachlorethane	630-20-6	-
1,1,2,2-Tetrachlorethane	79-34-5	16
Tetrachloroethylene	127-18-4	16
Tetrachloroguaiacol	2539-17-5	-
2,3,4,5-Tetrachlorophenol	4901-51-3	20
2,3,4,6-Tetrachlorophenol	58-90-2	20
2,3,5,6-Tetrachlorophenol	935-95-5	20
Tetraethyl lead	78-00-2	13
Tetraethyl thiuram disulphide	97-77-8	-
Tetrahydrofuran	109-99-9	-
1,2,3,4-Tetrahydronaphthalene (Tetralin)	119-64-2	-
Tetramethyl thiuram disulphide	137-26-8	-
Thallium	7440-28-0	9
Thiophene	110-02-1	-
Thiourea	62-56-6	-
Toluene	108-88-3	17
2,4-Toluene diisocyanate	584-84-9	-
2,6-toluene diisocyanate (2,6-TDI)	91-08-7	-
Toluene diisocyanate-mixture (TDI)	26471-62-5	-
Tributyl phosphate	126-73-8	-
1,1,3-Trichloroacetone	921-03-9	-
1,2,3-Trichlorobenzene	87-61-6	23
1,2,4-Trichlorobenzene	120-82-1	23
1,1,1-Trichloroethane	71-55-6	-
1,1,2-Trichloroethane	79-00-5	16
Trichloroethylene	79-01-6	16
Trichlorofluoromethane	75-69-4	16
Trichloroguaiacol	61966-36-7	-
2,3,4-Trichlorophenol	15950-66-0	20
2,3,5-Trichlorophenol	933-78-8	20
2,4,5-Trichlorophenol	95-95-4	20
2,4,6-Trichlorophenol	88-06-2	20
2,4,5-Trichlorotoluene	6639-30-1	23
Triethyl lead	N/A	13
1,2,4-Trimethylbenzene	95-63-6	-

TABLE 1 - EFFLUENT MONITORING PRIORITY POLLUTANTS LIST (EMPPL) (1988 UPDATE)

EMPPL PARAMETERS	CAS #	ANALYTICAL TEST GROUP #
Trimethylbenzenes	25551-13-7	-
Trimethylnaphthalenes	28652-77-9	-
Trixylyl phosphate	25155-23-1	-
Uranium	7440-61-1	9
Vanadium	7440-62-2	9
Vanillic acid	121-34-6	-
Vinyl chloride	75-01-4	16
o-Xylene	95-47-6	17
m-Xylene	108-38-3	17
p-Xylene	106-42-3	17
Zinc	7440-66-6	9
Zinc diethyl dithio carbamate	14324-55-1	-

* Represents tetra-, penta-, hexa-, hepta-, and octa- congeners

NOTE: 1. MOE analytical methods are NOT currently available for parameters shown in bold print.

2. Italicized print indicates parameters added to EMPPL in the Nov. 1988 upda

Number of parameters with existing validated analytical methods	141
Number of parameters with no analytical methods	125
Total Number of EMPPL Parameters/Groups	266

TABLE 2 - INORGANIC CHEMICAL SECTOR

CONVENTIONALS, SECTOR SPECIFIC CONVENTIONALS AND SECTOR PRIORITY POLLUTANTS LIST (SHOWN BY ANALYTICAL TEST GROUPS)

CONVENTIONALS

ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s†
1	Chemical Oxygen Demand	Chemical oxygen demand (COD)	N/A*
2	Cyanide	Cyanide	57-12-5
3	Hydrogen ion (pH)	Hydrogen ion (pH)	N/A*
4a	Nitrogen	Ammonia plus Ammonium	N/A*
		Total Kjeldahl nitrogen	N/A*
4b		Nitrate + Nitrite	N/A*
5a	Organic carbon	Dissolved organic carbon (DOC)	N/A*
5b		Total organic carbon (TOC)	N/A*
6	Total phosphorus	Total phosphorus	7723-14-0
7	Specific conductance	Specific conductance	N/A*
8	Suspended solids	Total suspended solids (TSS)	N/A*
		Volatile suspended solids (VSS)	N/A*
14	Phenolics (4AAP)	Phenolics (4AAP)**	N/A*
15	Sulphide	Sulphide	N/A*
25	Solvent Extractables	Oil and grease	N/A*

TABLE 2 - INORGANIC CHEMICAL SECTOR

CONVENTIONALS, SECTOR SPECIFIC CONVENTIONALS AND SECTOR PRIORITY POLLUTANTS LIST (SHOWN BY ANALYTICAL TEST GROUPS)

SECTOR PRIORITY POLLUTANTS

ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s†
9	Total metals	Aluminum	7429-90-5
		Beryllium	7440-41-7
		Boron	7440-42-8
		Cadmium	7440-43-9
		Chromium	7440-47-3
		Cobalt	7440-48-4
		Copper	7440-50-8
		Lead	7439-92-1
		Molybdenum	7439-98-7
		Nickel	7440-02-0
		Silver	7440-22-4
		Strontium	7440-24-6
		Thallium	7440-28-0
		Vanadium	7440-62-2
		Zinc	7440-66-6
10	Hydrides	Antimony	7440-36-0
		Arsenic	7440-38-2
		Selenium	7782-49-2
11	Chromium (Hexavalent)	Chromium (Hexavalent)	7440-47-3
12	Mercury	Mercury	7439-97-6
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	79-34-5
		1,1,2-Trichloroethane	79-00-5
		1,1-Dichloroethane	75-34-3
		1,1-Dichloroethylene	75-35-4
		1,2-Dichlorobenzene	95-50-1
		1,2-Dichloroethane (Ethylene dichloride)	107-06-2
		1,2-Dichloropropane	78-87-5
		1,3-Dichlorobenzene	541-73-1
		1,4-Dichlorobenzene	106-46-7

ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s†
16	Volatiles, Halogenated (continued)	Bromoform	75-25-2
		Bromomethane	74-83-9
		Carbon tetrachloride	56-23-5
		Chlorobenzene	108-90-7
		Chloroform	67-66-3
		Chloromethane	74-87-3
		Cis-1,3-Dichloropropylene	10061-01-5
		Dibromochloromethane	124-48-1
		Ethylene dibromide	106-93-4
		Methylene chloride	75-09-2
		Tetrachloroethylene (Perchloroethylene)	127-18-4
		Trans-1,2-Dichloroethylene	156-60-5
		Trans-1,3-Dichloropropylene	10061-02-6
		Trichloroethylene	79-01-6
		Trichlorofluoromethane	75-69-4
		Vinyl chloride (Chloroethylene)	75-01-4
17	Volatiles, Non-Halogenated	Benzene	71-43-2
		Styrene	100-42-5
		Toluene	108-88-3
		o-Xylene	95-47-6
		m-Xylene and p-Xylene	108-38-3
			& 106-42-3
18	Volatiles, Water Soluble	Acrolein	107-02-8
		Acrylonitrile	107-13-1

TABLE 2 - INORGANIC CHEMICAL SECTOR

CONVENTIONALS, SECTOR SPECIFIC CONVENTIONALS AND SECTOR PRIORITY POLLUTANTS LIST (SHOWN BY ANALYTICAL TEST GROUPS)

SECTOR PRIORITY POLLUTANTS

ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s†
19	Extractables, Base Neutral	Acenaphthene	83-32-9
		5-nitro Acenaphthene	602-87-9
		Acenaphthylene	208-96-8
		Anthracene	120-12-7
		Benz(a)anthracene	56-55-3
		Benzo(a)pyrene	50-32-8
		Benzo(b)fluoranthene	205-99-2
		Benzo(g,h,i)perylene	191-24-2
		Benzo(k)fluoranthene	207-08-9
		Biphenyl	92-52-4
		Camphene	79-92-5
		1-Chloronaphthalene	90-13-1
		2-Chloronaphthalene	91-58-7
		Chrysene	218-01-9
		Dibenz(a,h)anthracene	53-70-3
		Fluoranthene	206-44-0
		Fluorene	86-73-7
		Indeno(1,2,3-cd)pyrene	193-39-5
		Indole	120-72-9
		1-Methylnaphthalene	90-12-0
		2-Methylnaphthalene	91-57-6
		Naphthalene	91-20-3
		Perylene	198-55-0
		Phenanthrene	85-01-8
		Pyrene	129-00-0
		Benzyl butyl phthalate	85-68-7
		Bis(2-ethylhexyl) phthalate	117-81-7
		Di-n-butyl phthalate	84-74-2
		4-Bromophenyl phenyl ether	101-55-3
		4-Chlorophenyl phenyl ether	7005-72-3
		Bis(2-chloroisopropyl)ether	108-60-1
		Bis(2-chloroethyl)ether	111-44-4
		Diphenyl ether	10-184-8

ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s†
19	Extractables, Base Neutral (continued)	2,4-Dinitrotoluene	121-14-2
		2,6-Dinitrotoluene	606-20-2
		Bis(2-chloroethoxy)methane	111-91-1
		Diphenylamine	122-39-4
		N-Nitrosodiphenylamine	86-30-6
		N-Nitrosodi-n-propylamine	621-64-7
20	Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	4901-51-3
		2,3,4,6-Tetrachlorophenol	58-90-2
		2,3,5,6-Tetrachlorophenol	935-95-5
		2,3,4-Trichlorophenol	15950-66-0
		2,3,5-Trichlorophenol	933-78-8
		2,4,5-Trichlorophenol	95-95-4
		2,4,6-Trichlorophenol	88-06-2
		2,4-Dimethyl phenol	105-67-9
		2,4-Dinitrophenol	51-28-5
		2,4-Dichlorophenol	120-83-2
		2,6-Dichlorophenol	87-65-0
		4,6-Dinitro-o-cresol	534-52-1
		2-Chlorophenol	95-57-8
		4-Chloro-3-methylphenol	59-50-7
		4-Nitrophenol	100-02-7
		m-Cresol	108-39-4
		o-Cresol	95-48-7
		p-Cresol	106-44-5
		Pentachlorophenol	87-86-5
		Phenol	108-95-2

TABLE 2 - INORGANIC CHEMICAL SECTOR

CONVENTIONALS, SECTOR SPECIFIC CONVENTIONALS AND SECTOR PRIORITY POLLUTANTS LIST (SHOWN BY ANALYTICAL TEST GROUPS)

SECTOR PRIORITY POLLUTANTS

ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s†
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	634-66-2
		1,2,3,5-Tetrachlorobenzene	634-90-2
		1,2,4,5-Tetrachlorobenzene	95-94-3
		1,2,3-Trichlorobenzene	87-61-6
		1,2,4-Trichlorobenzene	120-82-1
		2,4,5-Trichlorotoluene	6639-30-1
		Hexachlorobenzene	118-74-1
		Hexachlorobutadiene	87-68-3
		Hexachlorocyclopentadiene	77-47-4
		Hexachloroethane	67-72-1
		Octachlorostyrene	29082-74-4
		Pentachlorobenzene	608-93-5
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6
		Octachlorodibenzo-p-dioxin	326-88-7
		Octachlorodibenzofuran	Unavailable
		Total heptachlorinated dibenzo-p-dioxins	Unavailable
		Total heptachlorinated dibenzofurans	Unavailable
		Total hexachlorinated dibenzo-p-dioxins	34465-46-8
		Total hexachlorinated dibenzofurans	Unavailable
		Total pentachlorinated dibenzo-p-dioxins	Unavailable
		Total pentachlorinated dibenzofurans	Unavailable
		Total tetrachlorinated dibenzo-p-dioxins	Unavailable
		Total tetrachlorinated dibenzofurans	Unavailable
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	Unavailable

SECTOR-SPECIFIC CONVENTIONAL POLLUTANTS (NOT ON EMPPL)

ANALYTICAL TEST GROU #	NAME	PARAMETERS	CAS #s†
IC1	Chloride	Chloride	N/A *
IC2	Fluoride	Fluoride	N/A *
IC3	Sulphate	Sulphate	N/A *

† CAS #s - Chemical Abstract Service numbers

* N/A - Not Applicable

** 4AAP = 4-amino antipyrine method

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Albright & Wilson		Allied Chemicals			Cabot	
		NAME OF STREAM:	Intake	Final Discharge	Intake	Genetron Effluent	Mailloux Quarry	Intake	Discharge Filter Bed
		STREAM CLASSIFICATION:	Intake	Combined	Intake	Process	Storm	Intake	Combined
ANALYTICAL TEST GROUP		PARAMETERS							
2	Cyanide	Cyanide	0 / 4	0 / 5		1 / 5	1 / 4	0 / 1	4 / 4
4a	Nitrogen	Ammonia plus Ammonium	0 / 4	1 / 5	0 / 4	4 / 5	4 / 4	0 / 1	3 / 5
		Total Kjeldahl nitrogen	3 / 4	4 / 5	2 / 4	4 / 4	4 / 4	0 / 1	5 / 5
4b		Nitrate + Nitrite	4 / 4	5 / 5	4 / 4	5 / 5	1 / 4	0 / 1	5 / 5
6	Total phosphorus	Total phosphorus	1 / 4	1 / 5	0 / 4	1 / 5	0 / 4	0 / 1	5 / 5
9	Total metals	Aluminum	0 / 4	5 / 5	4 / 4	5 / 5	2 / 4	0 / 1	5 / 5
		Beryllium	0 / 4	0 / 5	0 / 4	0 / 5	2 / 4	0 / 1	0 / 5
		Cadmium			0 / 4	0 / 5	2 / 4	0 / 1	0 / 5
		Chromium	0 / 4	0 / 5	0 / 4	0 / 5	2 / 4	0 / 1	3 / 5
		Cobalt	0 / 4	0 / 5	0 / 4	0 / 5	4 / 4	0 / 1	0 / 5
		Copper	0 / 4	0 / 5	0 / 4	1 / 5	2 / 4	0 / 1	0 / 5
		Lead	0 / 4	0 / 5	0 / 4	0 / 5	0 / 4	0 / 1	0 / 5
		Molybdenum	0 / 4	0 / 5	0 / 4	0 / 5	2 / 4	0 / 1	2 / 5
		Nickel	0 / 4	0 / 5	0 / 4	0 / 5	4 / 4	0 / 1	0 / 5
		Silver	0 / 4	0 / 5	0 / 4	0 / 5	1 / 4	0 / 1	0 / 5
		Thallium	0 / 4	0 / 5	0 / 4	0 / 5	2 / 4	0 / 1	0 / 5
		Vanadium	0 / 4	0 / 5	0 / 4	0 / 5	4 / 4	0 / 1	0 / 5
		Zinc	0 / 4	1 / 5	0 / 4	4 / 5	4 / 4	0 / 1	5 / 5
10	Hydrides	Antimony	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	1 / 5
		Arsenic	0 / 4	0 / 5	0 / 4	4 / 4	0 / 4	0 / 1	0 / 5
		Selenium	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	1 / 5
12	Mercury	Mercury	0 / 4	1 / 5	0 / 4	2 / 5	1 / 4	0 / 1	0 / 5
14	Phenolics (4AAP)	Phenolics (4AAP)	4 / 4	3 / 5	0 / 4	4 / 5	0 / 4	0 / 1	0 / 5
15	Sulphide	Sulphide	0 / 4	0 / 5				0 / 1	0 / 4

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Albright & Wilson		Allied Chemicals			Cabot	
		NAME OF STREAM:	Intake	Final Discharge	Intake	Genetron Effluent	Mailloux Quarry	Intake	Discharge Filter Bed
		STREAM CLASSIFICATION:	Intake	Combined	Intake	Process	Storm	Intake	Combined
ANALYTICAL TEST GROUP		PARAMETERS							
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	0 / 4	0 / 5	0 / 4	1 / 5	0 / 4	0 / 1	0 / 5
		1,1,2-Trichloroethane	0 / 4	0 / 5	0 / 4	0 / 5	0 / 4	0 / 1	0 / 5
		1,1-Dichloroethane	0 / 4	0 / 5	0 / 4	0 / 5	0 / 4	0 / 1	0 / 5
		1,1-Dichloroethylene	0 / 4	0 / 5	0 / 4	0 / 5	0 / 4	0 / 1	0 / 5
		1,2-Dichlorobenzene	0 / 4	0 / 5	0 / 4	0 / 5	0 / 4	0 / 1	0 / 5
		1,2-Dichloroethane (Ethylene dichloride)	0 / 4	0 / 5	0 / 4	0 / 5	0 / 4	0 / 1	0 / 5
		1,2-Dichloropropane	0 / 4	0 / 5	0 / 4	0 / 5	0 / 4	0 / 1	0 / 5
		1,3-Dichlorobenzene	0 / 4	0 / 5	0 / 4	0 / 5	0 / 4	0 / 1	0 / 5
		1,4-Dichlorobenzene	0 / 4	0 / 5	0 / 4	0 / 5	0 / 4	0 / 1	0 / 5
		Bromoform	0 / 4	0 / 5	0 / 4	0 / 5	0 / 4	0 / 1	0 / 5
		Bromomethane	0 / 4	0 / 5	0 / 4	0 / 5	0 / 4	0 / 1	0 / 5
		Carbon tetrachloride	0 / 4	0 / 5	0 / 4	5 / 5	0 / 4	0 / 1	0 / 5
		Chlorobenzene	0 / 4	0 / 5	0 / 4	0 / 5	0 / 4	0 / 1	0 / 5
		Chloroform	3 / 4	3 / 5	0 / 4	5 / 5	0 / 4	0 / 1	0 / 5
		Chloromethane	0 / 4	0 / 5	0 / 4	0 / 5	0 / 4	0 / 1	0 / 5
		Cis-1,3-Dichloropropylene	0 / 4	0 / 5	0 / 4	0 / 5	0 / 4	0 / 1	0 / 5
		Dibromochloromethane	0 / 4	0 / 5	0 / 4	0 / 5	0 / 4	0 / 1	0 / 5
		Ethylene dibromide			0 / 4			0 / 1	0 / 5
		Methylene chloride	0 / 4	0 / 5	1 / 4	3 / 5	0 / 4	0 / 1	0 / 5
		Tetrachloroethylene (Perchloroethylene)	0 / 4	0 / 5	0 / 4	0 / 5	0 / 4	0 / 1	0 / 5
		Trans-1,2-Dichloroethylene	0 / 4	0 / 5	0 / 4	0 / 5	0 / 4	0 / 1	0 / 5
		Trans-1,3-Dichloropropylene	0 / 4	0 / 5	0 / 4	0 / 5	0 / 4	0 / 1	0 / 5
		Trichloroethylene	0 / 4	0 / 5	0 / 4	0 / 5	0 / 4	0 / 1	0 / 5
		Trichlorofluoromethane	0 / 4	0 / 5	0 / 4	4 / 5	0 / 4	0 / 1	0 / 5
		Vinyl chloride (Chloroethylene)	0 / 4	0 / 5	0 / 4	0 / 5	0 / 4	0 / 1	0 / 5
17	Volatiles, Non-Halogenated	Benzene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Styrene			0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Toluene	0 / 4	0 / 5	0 / 4	1 / 4	0 / 4	0 / 1	0 / 5
		o-Xylene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		m-Xylene and p-Xylene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Albright & Wilson		Allied Chemicals			Cabot	
		NAME OF STREAM:	Intake	Final Discharge	Intake	Genetron Effluent	Mailloux Quarry	Intake	Discharge Filter Bed
		STREAM CLASSIFICATION:	Intake	Combined	Intake	Process	Storm	Intake	Combined
ANALYTICAL TEST GROUP		PARAMETERS							
18	Volatiles, Water Soluble	Acrolein	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Acrylonitrile	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
19	Extractables, Base Neutral	Acenaphthene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		5-nitro Acenaphthene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Acenaphthylene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Anthracene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Benz(a)anthracene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Benzo(a)pyrene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Benzo(b)fluoranthene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Benzo(g,h,i)perylene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Benzo(k)fluoranthene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Biphenyl			0 / 4	0 / 4	0 / 4		
		Camphene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4		
		1-Chloronaphthalene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4		
		2-Chloronaphthalene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Chrysene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Dibenz(a,h)anthracene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Fluoranthene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Fluorene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Indeno(1,2,3-cd)pyrene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Indole	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4		
		1-Methylnaphthalene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4		
		2-Methylnaphthalene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4		
		Naphthalene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Perylene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Phenanthrene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Pyrene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Benzyl butyl phthalate	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Bis(2-ethylhexyl) phthalate	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Di-n-butyl phthalate	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	1 / 1	2 / 4
		4-Bromophenyl phenyl ether	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Albright & Wilson		Allied Chemicals			Cabot	
		NAME OF STREAM:	Intake	Final Discharge	Intake	Genetron Effluent	Mailloux Quarry	Intake	Discharge Filter Bed
		STREAM CLASSIFICATION:	Intake	Combined	Intake	Process	Storm	Intake	Combined
ANALYTICAL TEST GROUP		PARAMETERS							
19	Extractables, Base Neutral (continued)	4-Chlorophenyl phenyl ether	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Bis(2-chloroisopropyl)ether	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Bis(2-chloroethyl)ether	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Diphenyl ether	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4		
		2,4-Dinitrotoluene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		2,6-Dinitrotoluene	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Bis(2-chloroethoxy)methane	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		Diphenylamine	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4		
		N-Nitrosodiphenylamine	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
		N-Nitrosodi-n-propylamine	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 1	0 / 5
20	Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4		
		2,3,4,6-Tetrachlorophenol	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4		
		2,3,5,6-Tetrachlorophenol	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4		
		2,3,4-Trichlorophenol	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4		
		2,3,5-Trichlorophenol	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4		
		2,4,5-Trichlorophenol	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4		
		2,4,6-Trichlorophenol	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 4	0 / 5
		2,4-Dimethyl phenol	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 4	0 / 5
		2,4-Dinitrophenol	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 4	0 / 5
		2,4-Dichlorophenol	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 4	0 / 5
		2,6-Dichlorophenol	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4		
		4,6-Dinitro-o-cresol	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 4	0 / 5
		2-Chlorophenol	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 4	0 / 5
		4-Chloro-3-methylphenol	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4		
		4-Nitrophenol	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 4	0 / 5
		m-Cresol	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4		
		o-Cresol	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4		
		p-Cresol	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4		
		Pentachlorophenol	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 4	0 / 5
		Phenol	0 / 4	0 / 5	0 / 4	0 / 4	0 / 4	0 / 4	0 / 5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Albright & Wilson		Allied Chemicals			Cabot	
		NAME OF STREAM:	Intake	Final Discharge	Intake	Genetron Effluent	Mailloux Quarry	Intake	Discharge Filter Bed
		STREAM CLASSIFICATION:	Intake	Combined	Intake	Process	Storm	Intake	Combined
ANALYTICAL TEST GROUP		PARAMETERS							
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0 / 4	0 / 5	0 / 4	3 / 5	0 / 4	0 / 1	0 / 5
		1,2,3,5-Tetrachlorobenzene	0 / 4	0 / 5	0 / 4	0 / 5	0 / 4	0 / 1	0 / 5
		1,2,4,5-Tetrachlorobenzene	0 / 4	0 / 5	0 / 4	1 / 5	0 / 4	0 / 1	0 / 5
		1,2,3-Trichlorobenzene	0 / 4	0 / 5	1 / 4	0 / 5	0 / 4	0 / 1	0 / 5
		1,2,4-Trichlorobenzene	0 / 4	0 / 5	0 / 4	0 / 5	0 / 4	0 / 1	0 / 5
		2,4,5-Trichlorotoluene	0 / 4	0 / 5	0 / 4	0 / 5	0 / 4	0 / 1	0 / 5
		Hexachlorobenzene	0 / 4	0 / 5	0 / 4	5 / 5	0 / 4	0 / 1	0 / 5
		Hexachlorobutadiene	0 / 4	0 / 5	0 / 4	1 / 5	0 / 4	0 / 1	0 / 5
		Hexachlorocyclopentadiene	0 / 4	0 / 5				0 / 1	0 / 5
		Hexachloroethane	0 / 4	0 / 5	0 / 4	4 / 5	0 / 4	0 / 1	0 / 5
		Octachlorostyrene	0 / 4	0 / 5	0 / 4	2 / 5	0 / 4	0 / 1	0 / 5
		Pentachlorobenzene	0 / 4	0 / 5	0 / 4	2 / 5	0 / 4	0 / 1	0 / 5
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0 / 2	0 / 2	0 / 4	0 / 4	0 / 4		0 / 3
		Octachlorodibenzo-p-dioxin	1 / 2	0 / 2	0 / 4	0 / 4	1 / 4		0 / 3
		Octachlorodibenzofuran	0 / 2	0 / 2	0 / 4	3 / 4	0 / 4		0 / 3
		Total heptachlorinated dibenzo-p-dioxins	1 / 2	0 / 2	0 / 4	0 / 4	0 / 4		0 / 3
		Total heptachlorinated dibenzofurans	0 / 2	0 / 2	0 / 4	0 / 4	0 / 4		0 / 3
		Total hexachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 4	0 / 4	0 / 4		0 / 3
		Total hexachlorinated dibenzofurans	0 / 2	0 / 2	0 / 4	0 / 4	0 / 4		0 / 3
		Total pentachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 4	0 / 4	0 / 4		0 / 3
		Total pentachlorinated dibenzofurans	0 / 2	0 / 2	0 / 4	0 / 4	0 / 4		0 / 3
		Total tetrachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 4	0 / 4	0 / 4		0 / 3
		Total tetrachlorinated dibenzofurans	0 / 2	0 / 2	0 / 4	0 / 4	0 / 4		0 / 3
25	Solvent Extractables	Oil and grease	0 / 4	1 / 5	3 / 4	4 / 5	4 / 4	0 / 1	0 / 5
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	0 / 4	0 / 4		0 / 4	0 / 4	0 / 1	0 / 5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	CIL (Cornwall)			
		NAME OF STREAM:	Intake (City)	Intake (Well)	Manhole 15	LEL-2
		STREAM CLASSIFICATION:	Intake	Intake	Process	Combined
ANALYTICAL TEST GROUP		PARAMETERS				
2	Cyanide	Cyanide	0/2	0/2	0/4	0/4
4a	Nitrogen	Ammonia plus Ammonium	0/2	2/2	0/4	0/5
		Total Kjeldahl nitrogen	0/2	0/2	2/4	0/5
4b		Nitrate + Nitrite	1/2	0/2	4/4	5/5
6	Total phosphorus	Total phosphorus	0/2	0/2	1/4	5/5
9	Total metals	Aluminum			4/4	5/5
		Beryllium			0/4	0/5
		Cadmium			0/4	0/5
		Chromium			0/4	0/5
		Cobalt			0/4	4/5
		Copper			0/4	1/5
		Lead			0/4	0/5
		Molybdenum			1/4	0/5
		Nickel			0/4	0/5
		Silver			0/4	0/5
		Thallium			0/4	0/5
		Vanadium			0/4	0/5
		Zinc			4/4	5/5
10	Hydrides	Antimony			2/4	2/5
		Arsenic			0/4	0/5
		Selenium			0/4	0/5
12	Mercury	Mercury			4/4	5/5
14	Phenolics (4AAP)	Phenolics (4AAP)			4/4	3/5
15	Sulphide	Sulphide			2/4	2/4

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	CIL (Cornwall)			
		NAME OF STREAM:	Intake (City)	Intake (Well)	Manhole 15	LEL-2
		STREAM CLASSIFICATION:	Intake	Intake	Process	Combined
ANALYTICAL TEST GROUP		PARAMETERS				
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	0/2	0/2	0/4	0/5
		1,1,2-Trichloroethane	0/2	0/2	0/4	0/5
		1,1-Dichloroethane	0/2	0/2	0/4	0/5
		1,1-Dichloroethylene	0/2	0/2	0/4	0/5
		1,2-Dichlorobenzene	0/2	0/2	0/4	0/5
		1,2-Dichloroethane (Ethylene dichloride)	0/2	0/2	0/4	0/5
		1,2-Dichloropropane	0/2	0/2	0/4	0/5
		1,3-Dichlorobenzene	0/2	0/2	0/4	0/5
		1,4-Dichlorobenzene	0/2	0/2	0/4	0/5
		Bromoform	0/2	0/2	0/4	0/5
		Bromomethane	0/2	0/2	0/4	0/5
		Carbon tetrachloride	0/2	0/2	0/4	0/5
		Chlorobenzene	0/2	0/2	0/4	0/5
		Chloroform	2/2	0/2	1/4	3/5
		Chloromethane	0/2	0/2	0/4	0/5
		Cis-1,3-Dichloropropylene	0/2	0/2	0/4	0/5
		Dibromochloromethane	0/2	0/2	0/4	1/5
		Ethylene dibromide	0/2	0/2	0/4	0/5
		Methylene chloride	0/2	0/2	0/4	0/5
		Tetrachloroethylene (Perchloroethylene)	0/2	0/2	0/4	1/5
		Trans-1,2-Dichloroethylene	0/2	0/2	0/4	0/5
		Trans-1,3-Dichloropropylene	0/2	0/2	0/4	0/5
		Trichloroethylene	0/2	0/2	0/4	0/5
		Trichlorofluoromethane	0/2	0/2	0/4	0/5
		Vinyl chloride (Chloroethylene)	0/2	0/2	0/4	0/5
17	Volatiles, Non-Halogenated	Benzene	0/2	0/2	0/4	0/5
		Styrene	0/2	0/2	0/4	0/5
		Toluene	0/2	0/2	0/4	0/5
		o-Xylene	0/2	0/2	0/4	0/5
		m-Xylene and p-Xylene	0/2	0/2	0/4	0/5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	CIL (Cornwall)			
		NAME OF STREAM:	Intake (City)	Intake (Well)	Manhole 15	LEL-2
		STREAM CLASSIFICATION:	Intake	Intake	Process	Combined
ANALYTICAL TEST GROUP		PARAMETERS				
18	Volatiles, Water Soluble	Acrolein	0 / 2	0 / 2	0 / 4	0 / 5
		Acrylonitrile	0 / 2	0 / 2	0 / 4	0 / 5
19	Extractables, Base Neutral	Acenaphthene	0 / 2	0 / 2	0 / 4	0 / 5
		5-nitro Acenaphthene	0 / 2	0 / 2	0 / 4	0 / 5
		Acenaphthylene	0 / 2	0 / 2	0 / 4	0 / 5
		Anthracene	0 / 2	0 / 2	0 / 4	0 / 5
		Benz(a)anthracene	0 / 2	0 / 2	0 / 4	0 / 5
		Benzo(a)pyrene	0 / 2	0 / 2	0 / 4	0 / 5
		Benzo(b)fluoranthene	0 / 2	0 / 2	0 / 4	0 / 5
		Benzo(g,h,i)perylene	0 / 2	0 / 2	0 / 4	0 / 5
		Benzo(k)fluoranthene	0 / 2	0 / 2	0 / 4	0 / 5
		Biphenyl	0 / 2	0 / 2	0 / 4	0 / 5
		Camphene	0 / 2	0 / 2	0 / 4	0 / 5
		1-Chloronaphthalene	0 / 2	0 / 2	0 / 4	0 / 5
		2-Chloronaphthalene	0 / 2	0 / 2	0 / 4	0 / 5
		Chrysene	0 / 2	0 / 2	0 / 4	0 / 5
		Dibenz(a,h)anthracene	0 / 2	0 / 2	0 / 4	0 / 5
		Fluoranthene	0 / 2	0 / 2	0 / 4	0 / 5
		Fluorene	0 / 2	0 / 2	0 / 4	0 / 5
		Indeno(1,2,3-cd)pyrene	0 / 2	0 / 2	0 / 4	0 / 5
		Indole	0 / 2	0 / 2	0 / 4	0 / 5
		1-Methylnaphthalene	0 / 2	0 / 2	0 / 4	0 / 5
		2-Methylnaphthalene	0 / 2	0 / 2	0 / 4	0 / 5
		Naphthalene	0 / 2	0 / 2	0 / 4	0 / 5
		Perylene	0 / 2	0 / 2	0 / 4	0 / 5
		Phenanthrene	0 / 2	0 / 2	0 / 4	0 / 5
		Pyrene	0 / 2	0 / 2	0 / 4	0 / 5
		Benzyl butyl phthalate	0 / 2	0 / 2	0 / 4	0 / 5
		Bis(2-ethylhexyl) phthalate	0 / 2	0 / 2	0 / 4	1 / 5
		Di-n-butyl phthalate	0 / 2	0 / 2	0 / 4	0 / 5
		4-Bromophenyl phenyl ether	0 / 2	0 / 2	0 / 4	0 / 5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	CIL (Cornwall)			
		NAME OF STREAM:	Intake (City)	Intake (Well)	Manhole 15	LEL-2
		STREAM CLASSIFICATION:	Intake	Intake	Process	Combined
ANALYTICAL TEST GROUP		PARAMETERS				
19	Extractables, Base Neutral (continued)	4-Chlorophenyl phenyl ether	0 / 2	0 / 2	0 / 4	0 / 5
		Bis(2-chloroisopropyl)ether	0 / 2	0 / 2	0 / 4	0 / 5
		Bis(2-chloroethyl)ether	0 / 2	0 / 2	0 / 4	0 / 5
		Diphenyl ether	0 / 2	0 / 2	0 / 4	0 / 5
		2,4-Dinitrotoluene	0 / 2	0 / 2	0 / 4	0 / 5
		2,6-Dinitrotoluene	0 / 2	0 / 2	0 / 4	0 / 5
		Bis(2-chloroethoxy)methane	0 / 2	0 / 2	0 / 4	0 / 5
		Diphenylamine	0 / 2	0 / 2	0 / 4	0 / 5
		N-Nitrosodiphenylamine	0 / 2	0 / 2	0 / 4	0 / 5
		N-Nitrosodi-n-propylamine	0 / 2	0 / 2	0 / 4	0 / 5
20	Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0 / 2	0 / 2	0 / 4	0 / 5
		2,3,4,6-Tetrachlorophenol	0 / 2	0 / 2	0 / 4	0 / 5
		2,3,5,6-Tetrachlorophenol	0 / 2	0 / 2	0 / 4	0 / 5
		2,3,4-Trichlorophenol	0 / 2	0 / 2	0 / 4	0 / 5
		2,3,5-Trichlorophenol	0 / 2	0 / 2	0 / 4	0 / 5
		2,4,5-Trichlorophenol	0 / 2	0 / 2	0 / 4	0 / 5
		2,4,6-Trichlorophenol	0 / 2	0 / 2	0 / 4	0 / 5
		2,4-Dimethyl phenol	0 / 2	0 / 2	0 / 4	0 / 5
		2,4-Dinitrophenol	0 / 2	0 / 2	0 / 4	0 / 5
		2,4-Dichlorophenol	0 / 2	0 / 2	0 / 4	0 / 5
		2,6-Dichlorophenol	0 / 2	0 / 2	0 / 4	0 / 5
		4,6-Dinitro-o-cresol	0 / 2	0 / 2	0 / 4	0 / 5
		2-Chlorophenol	0 / 2	0 / 2	0 / 4	0 / 5
		4-Chloro-3-methylphenol	0 / 2	0 / 2	0 / 4	0 / 5
		4-Nitrophenol	0 / 2	0 / 2	0 / 4	0 / 5
		m-Cresol	0 / 2	0 / 2	0 / 4	0 / 5
		o-Cresol	0 / 2	0 / 2	0 / 4	0 / 5
		p-Cresol	0 / 2	0 / 2	0 / 4	0 / 5
		Pentachlorophenol	0 / 2	0 / 2	0 / 4	0 / 5
		Phenol	0 / 2	0 / 2	0 / 4	0 / 5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	CIL (Cornwall)			
		NAME OF STREAM:	Intake (City)	Intake (Well)	Manhole 15	LEL-2
		STREAM CLASSIFICATION:	Intake	Intake	Process	Combined
ANALYTICAL TEST GROUP		PARAMETERS				
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0 / 2	0 / 2	0 / 4	0 / 5
		1,2,3,5-Tetrachlorobenzene	0 / 2	0 / 2	0 / 4	0 / 5
		1,2,4,5-Tetrachlorobenzene	0 / 2	0 / 2	0 / 4	0 / 5
		1,2,3-Trichlorobenzene	0 / 2	0 / 2	0 / 4	0 / 5
		1,2,4-Trichlorobenzene	0 / 2	0 / 2	0 / 4	0 / 5
		2,4,5-Trichlorotoluene	0 / 2	0 / 2	0 / 4	0 / 5
		Hexachlorobenzene	0 / 2	0 / 2	4 / 4	0 / 5
		Hexachlorobutadiene	0 / 2	0 / 2	0 / 4	0 / 5
		Hexachlorocyclopentadiene	0 / 2	0 / 2	0 / 4	0 / 5
		Hexachloroethane	0 / 2	0 / 2	4 / 4	2 / 5
		Octachlorostyrene	0 / 2	0 / 2	4 / 4	0 / 5
		Pentachlorobenzene	0 / 2	0 / 2	4 / 4	1 / 5
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin			0 / 4	0 / 5
		Octachlorodibenzo-p-dioxin			1 / 4	0 / 5
		Octachlorodibenzofuran			0 / 4	0 / 5
		Total heptachlorinated dibenzo-p-dioxins			0 / 4	0 / 5
		Total heptachlorinated dibenzofurans			0 / 4	0 / 5
		Total hexachlorinated dibenzo-p-dioxins			0 / 4	0 / 5
		Total hexachlorinated dibenzofurans			0 / 4	0 / 5
		Total pentachlorinated dibenzo-p-dioxins			0 / 4	0 / 5
		Total pentachlorinated dibenzofurans			4 / 4	1 / 5
		Total tetrachlorinated dibenzo-p-dioxins			0 / 4	0 / 5
		Total tetracnlorinated dibenzofurans			4 / 4	1 / 5
25	Solvent Extractables	Oil and grease			2 / 4	3 / 5
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	0 / 2	0 / 2	0 / 4	0 / 5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	CIL (Courtright)							
		NAME OF STREAM:	Intake	Drainage Ditch	Gypsum Ponds	30" Concrete	18" Black Poly Pipe	Manhole #55	42" from A-II	Final Effluent
		STREAM CLASSIFICATION:	Intake	Process	Combined	Combined	Combined	Combined	Combined	Combined
ANALYTICAL TEST GROUP		PARAMETERS								
2	Cyanide	Cyanide	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/5
4a	Nitrogen	Ammonia plus Ammonium	0/4	4/4	1/4	4/4	0/4	4/4	4/4	5/5
		Total Kjeldahl nitrogen	0/4	4/4	2/4	4/4	0/4	4/4	4/4	5/5
4b		Nitrate + Nitrite	4/4	4/4	4/4	4/4	4/4	4/4	4/4	5/5
6	Total phosphorus	Total phosphorus	2/4	4/4	2/4	2/4	2/4	2/4	2/4	3/4
9	Total metals	Aluminum	4/4	4/4	4/4	4/4	4/4	4/4	3/4	5/5
		Beryllium	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/5
		Cadmium	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/5
		Chromium	0/4	1/4	0/4	2/4	0/4	0/4	0/4	0/5
		Cobalt	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/5
		Copper	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/5
		Lead	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/5
		Molybdenum	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/5
		Nickel	0/4	1/4	0/4	0/4	0/4	0/4	0/4	0/5
		Silver	1/4	0/4	2/4	0/4	0/4	0/4	0/4	0/5
		Thallium	0/4	0/4	0/4	0/4	1/4	0/4	0/4	0/5
		Vanadium	4/4	4/4	4/4	4/4	4/4	3/4	4/4	4/5
		Zinc	3/4	3/4	0/4	4/4	0/4	1/4	4/4	1/5
10	Hydrides	Antimony	0/7	1/7	2/4	0/7	0/7	0/7	2/7	1/5
		Arsenic	1/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Selenium	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
12	Mercury	Mercury	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
14	Phenolics (4AAP)	Phenolics (4AAP)	0/7	2/7	1/4	1/7	1/7	1/7	1/7	0/5
15	Sulphide	Sulphide	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/4

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

			NAME OF COMPANY:	CIL (Courtright)							
			NAME OF STREAM:	Intake	Drainage Ditch	Gypsum Ponds	30" Concrete	18" Black Poly. Pipe	Manhole #55	42" from A-II	Final Effluent
			STREAM CLASSIFICATION:	Intake	Process	Combined	Combined	Combined	Combined	Combined	Combined
ANALYTICAL TEST GROUP			PARAMETERS								
16	Volatiles, Halogenated		1,1,2,2-Tetrachloroethane	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			1,1,2-Trichloroethane	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			1,1-Dichloroethane	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			1,1-Dichloroethylene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			1,2-Dichlorobenzene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			1,2-Dichloroethane (Ethylene dichloride)	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			1,2-Dichloropropane	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			1,3-Dichlorobenzene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			1,4-Dichlorobenzene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			Bromoform	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			Bromomethane	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			Carbon tetrachloride	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			Chlorobenzene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			Chloroform	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			Chloromethane	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			Cis-1,3-Dichloropropylene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			Dibromochloromethane	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			Ethylene dibromide								
			Methylene chloride	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			Tetrachloroethylene (Perchloroethylene)	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			Trans-1,2-Dichloroethylene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			Trans-1,3-Dichloropropylene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			Trichloroethylene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			Trichlorofluoromethane	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			Vinyl chloride (Chloroethylene)	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
17	Volatiles, Non-Halogenated		Benzene	0/7	0/7	0/4	0/7	0/7	0/7	1/7	0/5
			Styrene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			Toluene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			o-Xylene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
			m-Xylene and p-Xylene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	CIL (Courtright)							
		NAME OF STREAM:	Intake	Drainage Ditch	Gypsum Ponds	30" Concrete	18" Black Poly. Pipe	Manhole #55	42" from A-II	Final Effluent
		STREAM CLASSIFICATION:	Intake	Process	Combined	Combined	Combined	Combined	Combined	Combined
ANALYTICAL TEST GROUP		PARAMETERS								
18	Volatiles, Water Soluble	Acrolein	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Acrylonitrile	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
19	Extractables, Base Neutral	Acenaphthene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		5-nitro Acenaphthene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Acenaphthylene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Anthracene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Benz(a)anthracene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Benzo(a)pyrene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Benzo(b)fluoranthene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Benzo(g,h,i)perylene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Benzo(k)fluoranthene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Biphenyl								
		Camphene								
		1-Chloronaphthalene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		2-Chloronaphthalene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Chrysene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Dibenz(a,h)anthracene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Fluoranthene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Fluorene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Indeno(1,2,3-cd)pyrene								
		Indole	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		1-Methylnaphthalene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		2-Methylnaphthalene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Naphthalene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Perylene								
		Phenanthrene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Pyrene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Benzyl butyl phthalate	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Bis(2-ethylhexyl) phthalate	4/7	0/7	0/4	0/7	1/7	1/7	3/7	1/5
		Di-n-butyl phthalate	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		4-Bromophenyl phenyl ether	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	CIL (Courtright)							
		NAME OF STREAM:	Intake	Drainage Ditch	Gypsum Ponds	30" Concrete	18" Black Poly. Pipe	Manhole #55	42" from A-II	Final Effluent
		STREAM CLASSIFICATION:	Intake	Process	Combined	Combined	Combined	Combined	Combined	Combined
ANALYTICAL TEST GROUP		PARAMETERS								
19	Extractables, Base Neutral (continued)	4-Chlorophenyl phenyl ether	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Bis(2-chloroisopropyl)ether	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Bis(2-chloroethyl)ether	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Diphenyl ether								
		2,4-Dinitrotoluene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		2,6-Dinitrotoluene	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Bis(2-chloroethoxy)methane	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Diphenylamine								
		N-Nitrosodiphenylamine	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		N-Nitrosodi-n-propylamine	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
20	Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		2,3,4,6-Tetrachlorophenol	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		2,3,5,6-Tetrachlorophenol	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		2,3,4-Trichlorophenol	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		2,3,5-Trichlorophenol	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		2,4,5-Trichlorophenol	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		2,4,6-Trichlorophenol	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		2,4-Dimethyl phenol	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		2,4-Dinitrophenol	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		2,4-Dichlorophenol	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		2,6-Dichlorophenol	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		4,6-Dinitro-o-cresol	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		2-Chlorophenol	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		4-Chloro-3-methylphenol	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		4-Nitrophenol	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		m-Cresol	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		o-Cresol	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		p-Cresol	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Pentachlorophenol	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5
		Phenol	0/7	0/7	0/4	0/7	0/7	0/7	0/7	0/5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	CIL (Courtright)							
		NAME OF STREAM:	Intake	Drainage Ditch	Gypsum Ponds	30" Concrete	18" Black Poly. Pipe	Manhole #55	42" from A-II	Final Effluent
		STREAM CLASSIFICATION:	Intake	Process	Combined	Combined	Combined	Combined	Combined	Combined
ANALYTICAL TEST GROUP		PARAMETERS								
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/5
		1,2,3,5-Tetrachlorobenzene	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/5
		1,2,4,5-Tetrachlorobenzene	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/5
		1,2,3-Trichlorobenzene	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/5
		1,2,4-Trichlorobenzene	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/5
		2,4,5-Trichlorotoluene	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/5
		Hexachlorobenzene	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/5
		Hexachlorobutadiene	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/5
		Hexachlorocyclopentadiene	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/5
		Hexachloroethane	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/5
		Octachlorostyrene	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/5
		Pentachlorobenzene	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/5
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/2
		Octachlorodibenzo-p-dioxin	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/2
		Octachlorodibenzofuran	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/2
		Total heptachlorinated dibenzo-p-dioxins	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/2
		Total heptachlorinated dibenzofurans	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/2
		Total hexachlorinated dibenzo-p-dioxins	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/2
		Total hexachlorinated dibenzofurans	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/2
		Total pentachlorinated dibenzo-p-dioxins	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/2
		Total pentachlorinated dibenzofurans	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/2
		Total tetrachlorinated dibenzo-p-dioxins	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/2
		Total tetrachlorinated dibenzofurans	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/2
25	Solvent Extractables	Oil and grease	3/4	4/4	4/4	4/4	4/4	4/4	4/4	4/5
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Columbian		Cyanamid (Niagara)			
		NAME OF STREAM:	West Outfall	East Outfall	Intake	Whitty Creek	Hydro Canal	Manhole 140
		STREAM CLASSIFICATION:	Storm	Storm	Intake	Combined	Combined	-
ANALYTICAL TEST GROUP		PARAMETERS						
2	Cyanide	Cyanide	0/2	0/2	0/4	2/5	0/4	4/4
4a	Nitrogen	Ammonia plus Ammonium	1/3	0/2	0/4	0/5	0/4	0/4
		Total Kjeldahl nitrogen	1/3	0/2	0/4	0/5	0/4	0/4
4b		Nitrate + Nitrite	3/3	2/2	3/4	5/5	4/4	4/4
6	Total phosphorus	Total phosphorus	2/3	1/2	0/4	0/5	0/4	0/4
9	Total metals	Aluminum	3/3	2/2	4/4	4/5	4/4	4/4
		Beryllium	0/3	0/2	0/4	0/5	0/4	0/4
		Cadmium	0/3	0/2	0/4	0/5	0/4	0/4
		Chromium	0/3	0/2	0/4	0/5	0/4	0/4
		Cobalt	2/3	1/2	0/4	0/5	0/4	0/4
		Copper	1/3	1/2	0/4	0/5	0/4	0/4
		Lead	0/3	0/2	0/4	0/5	0/4	0/4
		Molybdenum	0/3	0/2	0/4	0/5	0/4	0/4
		Nickel	0/3	0/2	0/4	0/5	0/4	0/4
		Silver	0/3	0/2	0/4	0/5	0/4	0/4
		Thallium	0/3	0/2	0/4	0/5	0/4	0/4
		Vanadium	0/3	0/2	0/4	0/5	0/4	0/4
		Zinc	3/3	2/2	0/4	4/5	2/4	4/4
10	Hydrides	Antimony	1/3	1/2	0/4	0/5	0/4	0/4
		Arsenic	0/3	0/2	0/4	0/5	0/4	0/4
		Selenium	0/3	0/2	0/4	0/5	0/4	0/4
12	Mercury	Mercury	0/3	1/2	1/4	1/5	0/4	3/4
14	Phenolics (4AAP)	Phenolics (4AAP)	3/3	2/2	1/4	1/5	1/4	0/4
15	Sulphide	Sulphide	2/2	2/2	0/4	0/4	0/4	0/4

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Columbian		Cyanamid (Niagara)			
		NAME OF STREAM:	West Outfall	East Outfall	Intake	Whitty Creek	Hydro Canal	Manhole 140
		STREAM CLASSIFICATION:	Storm	Storm	Intake	Combined	Combined	-
ANALYTICAL TEST GROUP		PARAMETERS						
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	0/3	0/2	0/4	0/5	0/4	0/4
		1,1,2-Trichloroethane	0/3	0/2	0/4	0/5	0/4	0/4
		1,1-Dichloroethane	0/3	0/2	0/4	0/5	0/4	0/4
		1,1-Dichloroethylene	0/3	0/2	0/4	0/5	0/4	0/4
		1,2-Dichlorobenzene	0/3	0/2	0/4	0/5	0/4	0/4
		1,2-Dichloroethane (Ethylene dichloride)	0/3	0/2	0/4	0/5	0/4	0/4
		1,2-Dichloropropane	0/3	0/2	0/4	0/5	0/4	0/4
		1,3-Dichlorobenzene	0/3	0/2	0/4	0/5	0/4	0/4
		1,4-Dichlorobenzene	0/3	0/2	0/4	0/5	0/4	0/4
		Bromoform	0/3	0/2	0/4	0/5	0/4	0/4
		Bromomethane	0/3	0/2	0/4	0/5	0/4	0/4
		Carbon tetrachloride	0/3	0/2	0/4	0/5	0/4	0/4
		Chlorobenzene	0/3	0/2	0/4	0/5	0/4	0/4
		Chloroform	0/3	0/2	0/4	0/5	0/4	0/4
		Chloromethane	0/3	0/2	0/4	0/5	0/4	0/4
		Cis-1,3-Dichloropropylene	0/3	0/2	0/4	0/5	0/4	0/4
		Dibromochloromethane	0/3	0/2	0/4	0/5	0/4	0/4
		Ethylene dibromide	0/3	0/2	0/4	0/5	0/4	0/4
		Methylene chloride	0/3	0/2	0/4	0/5	0/4	0/4
		Tetrachloroethylene (Perchloroethylene)	0/3	1/2	0/4	0/5	0/4	0/4
		Trans-1,2-Dichloroethylene	0/3	0/2	0/4	0/5	0/4	0/4
		Trans-1,3-Dichloropropylene	0/3	0/2	0/4	0/5	0/4	0/4
		Trichloroethylene	0/3	0/2	0/4	0/5	0/4	0/4
		Trichlorofluoromethane	0/3	0/2	0/4	0/5	0/4	0/4
		Vinyl chloride (Chloroethylene)	0/3	0/2	0/4	0/5	0/4	0/4
17	Volatiles, Non-Halogenated	Benzene	0/3	0/2	0/4	0/5	0/4	0/4
		Styrene	0/3	0/2	0/4	0/5	0/4	0/4
		Toluene	0/3	0/2	0/4	0/5	0/4	0/4
		o-Xylene	0/3	0/2	0/4	0/5	0/4	0/4
		m-Xylene and p-Xylene	0/3	0/2	0/4	0/5	0/4	0/4

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Columbian		Cyanamid (Niagara)			
		NAME OF STREAM:	West Outfall	East Outfall	Intake	Whitty Creek	Hydro Canal	Manhole 140
		STREAM CLASSIFICATION:	Storm	Storm	Intake	Combined	Combined	-
ANALYTICAL TEST GROUP		PARAMETERS						
18	Volatiles, Water Soluble	Acrolein	0/3	0/2	0/4	0/5	0/4	0/4
		Acrylonitrile	0/3	0/2	0/4	0/5	0/4	0/4
19	Extractables, Base Neutral	Acenaphthene	0/3	0/2	0/4	0/5	0/4	0/4
		5-nitro Acenaphthene	0/3	0/2	0/4	0/5	0/4	0/4
		Acenaphthylene	0/3	0/2	0/4	0/5	0/4	0/4
		Anthracene	0/3	0/2	0/4	0/5	0/4	0/4
		Benz(a)anthracene	0/3	0/2	0/4	0/5	0/4	0/4
		Benzo(a)pyrene	0/3	0/2	0/4	0/5	0/4	0/4
		Benzo(b)fluoranthene	0/3	0/2	0/4	0/5	0/4	0/4
		Benzo(g,h,i)perylene	0/3	0/2	0/4	0/5	0/4	0/4
		Benzo(k)fluoranthene	0/3	0/2	0/4	0/5	0/4	0/4
		Biphenyl	0/3	0/2	0/4	0/5	0/4	0/4
		Camphene	0/3	0/2	0/4	0/5	0/4	0/4
		1-Chloronaphthalene	0/3	0/2	0/4	0/5	0/4	0/4
		2-Chloronaphthalene	0/3	0/2	0/4	0/5	0/4	0/4
		Chrysene	0/3	0/2	0/4	0/5	0/4	0/4
		Dibenz(a,h)anthracene	0/3	0/2	0/4	0/5	0/4	0/4
		Fluoranthene	0/3	0/2	0/4	0/5	0/4	0/4
		Fluorene	0/3	0/2	0/4	0/5	0/4	0/4
		Indeno(1,2,3-cd)pyrene	0/3	0/2	0/4	0/5	0/4	0/4
		Indole	0/3	0/2	0/4	0/5	0/4	0/4
		1-Methylnaphthalene	0/3	0/2	0/4	0/5	0/4	0/4
		2-Methylnaphthalene	0/3	0/2	0/4	0/5	0/4	0/4
		Naphthalene	0/3	0/2	0/4	0/5	0/4	0/4
		Perylene	0/3	0/2	0/4	0/5	0/4	0/4
		Phenanthrene	0/3	0/2	0/4	0/5	0/4	0/4
		Pyrene	0/3	0/2	0/4	0/5	0/4	0/4
		Benzyl butyl phthalate	0/3	0/2	0/4	0/5	0/4	0/4
		Bis(2-ethylhexyl) phthalate	0/3	0/2	0/4	0/5	0/4	0/4
		Di-n-butyl phthalate	0/3	0/2	0/4	0/5	0/4	0/4
		4-Bromophenyl phenyl ether	0/3	0/2	0/4	0/5	0/4	0/4

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Columbian		Cyanamid (Niagara)			
		NAME OF STREAM:	West Outfall	East Outfall	Intake	Whitty Creek	Hydro Canal	Manhole 140
		STREAM CLASSIFICATION:	Storm	Storm	Intake	Combined	Combined	-
ANALYTICAL TEST GROUP		PARAMETERS						
19	Extractables, Base Neutral (continued)	4-Chlorophenyl phenyl ether	0/3	0/2	0/4	0/5	0/4	0/4
		Bis(2-chloroisopropyl)ether	0/3	0/2	0/4	0/5	0/4	0/4
		Bis(2-chloroethyl)ether	0/3	0/2	0/4	0/5	0/4	0/4
		Diphenyl ether	0/3	0/2	0/4	0/5	0/4	0/4
		2,4-Dinitrotoluene	0/3	0/2	0/4	0/5	0/4	0/4
		2,6-Dinitrotoluene	0/3	0/2	0/4	0/5	0/4	0/4
		Bis(2-chloroethoxy)methane	0/3	0/2	0/4	0/5	0/4	0/4
		Diphenylamine	0/3	0/2	0/4	0/5	0/4	0/4
		N-Nitrosodiphenylamine	0/3	0/2	0/4	0/5	0/4	0/4
		N-Nitrosodi-n-propylamine	0/3	0/2	0/4	0/5	0/4	0/4
20	Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0/3	0/2	0/4	0/5	0/4	0/4
		2,3,4,6-Tetrachlorophenol	0/3	0/2	0/4	0/5	0/4	0/4
		2,3,5,6-Tetrachlorophenol	0/3	0/2	0/4	0/5	0/4	0/4
		2,3,4-Trichlorophenol	0/3	0/2	0/4	0/5	0/4	0/4
		2,3,5-Trichlorophenol	0/3	0/2	0/4	0/5	0/4	0/4
		2,4,5-Trichlorophenol	0/3	0/2	0/4	0/5	0/4	0/4
		2,4,6-Trichlorophenol	0/3	0/2	0/4	0/5	0/4	0/4
		2,4-Dimethyl phenol	0/3	0/2	0/4	0/5	0/4	0/4
		2,4-Dinitrophenol	0/3	0/2	0/4	0/5	0/4	0/4
		2,4-Dichlorophenol	0/3	0/2	0/4	0/5	0/4	0/4
		2,6-Dichlorophenol	0/3	0/2	0/4	0/5	0/4	0/4
		4,6-Dinitro-o-cresol	0/3	0/2	0/4	0/5	0/4	0/4
		2-Chlorophenol	0/3	0/2	0/4	0/5	0/4	0/4
		4-Chloro-3-methylphenol	0/3	0/2	0/4	0/5	0/4	0/4
		4-Nitrophenol	0/3	0/2	0/4	0/5	0/4	0/4
		m-Cresol	0/3	0/2	0/4	0/5	0/4	0/4
		o-Cresol	0/3	0/2	0/4	0/5	0/4	0/4
		p-Cresol	0/3	0/2	0/4	0/5	0/4	0/4
		Pentachlorophenol	0/3	0/2	0/4	0/5	0/4	0/4
		Phenol	0/3	0/2	0/4	0/5	0/4	0/4

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Columbian		Cyanamid (Niagara)			
	NAME OF STREAM:	West Outfall	East Outfall	Intake	Whitty Creek	Hydro Canal	Manhole 140
	STREAM CLASSIFICATION:	Storm	Storm	Intake	Combined	Combined	-
ANALYTICAL TEST GROUP	PARAMETERS						
23 Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0/3	0/2	0/4	0/5	0/4	0/4
	1,2,3,5-Tetrachlorobenzene	0/3	0/2	0/4	0/5	0/4	0/4
	1,2,4,5-Tetrachlorobenzene	0/3	0/2	0/4	0/5	0/4	0/4
	1,2,3-Trichlorobenzene	0/3	0/2	0/4	0/5	0/4	0/4
	1,2,4-Trichlorobenzene	0/3	0/2	0/4	0/5	0/4	0/4
	2,4,5-Trichlorotoluene	0/3	0/2	0/4	0/5	0/4	0/4
	Hexachlorobenzene	0/3	0/2	0/4	0/5	0/4	0/4
	Hexachlorobutadiene	0/3	0/2	0/4	0/5	0/4	0/4
	Hexachlorocyclopentadiene	0/3	0/2	0/4	0/5	0/4	0/4
	Hexachloroethane	0/3	0/2	0/4	0/5	0/4	0/4
	Octachlorostyrene	0/3	0/2	0/4	0/5	0/4	0/4
	Pentachlorobenzene	0/3	0/2	0/4	0/5	0/4	0/4
24 Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0/3	0/2	0/4	0/5	0/4	0/4
	Octachlorodibenzo-p-dioxin	0/3	0/2	0/4	0/5	0/4	0/4
	Octachlorodibenzofuran	0/3	0/2	0/4	0/5	0/4	0/4
	Total heptachlorinated dibenzo-p-dioxins	0/3	0/2	0/4	0/5	0/4	0/4
	Total heptachlorinated dibenzofurans	0/3	0/2	0/4	0/5	0/4	0/4
	Total hexachlorinated dibenzo-p-dioxins	0/3	0/2	0/4	0/5	0/4	0/4
	Total hexachlorinated dibenzofurans	0/3	0/2	0/4	0/5	0/4	0/4
	Total pentachlorinated dibenzo-p-dioxins	0/3	0/2	0/4	0/5	0/4	0/4
	Total pentachlorinated dibenzofurans	0/3	0/2	0/4	0/5	0/4	0/4
	Total tetrachlorinated dibenzo-p-dioxins	0/3	0/2	0/4	0/5	0/4	0/4
	Total tetrachlorinated dibenzofurans	0/3	0/2	0/4	0/5	0/4	0/4
25 Solvent Extractables	Oil and grease	2/3	2/2	2/4	3/5	2/4	3/4
27 Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	0/3	0/2	0/4	0/5	0/4	0/4

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Cyanamid (Welland)					Explosive Tech. Int.	
		NAME OF STREAM:	Intake	Millers Creek	Sludge Pond #11	North Area Sewer	Phosphine Sewer	Intake	Discharge at Weir
		STREAM CLASSIFICATION:	Intake	Combined	Combined	-	-	Intake	Combined
ANALYTICAL TEST GROUP		PARAMETERS							
2	Cyanide	Cyanide	0/2	2/2	1/4	3/4	0/4	0/2	0/5
4a	Nitrogen	Ammonia plus Ammonium	1/2	3/3	4/4	4/4	2/4	0/2	0/5
		Total Kjeldahl nitrogen	1/2	3/3	4/4	4/4	4/4	0/2	5/5
4b		Nitrate + Nitrite	2/2	3/3	4/4	4/4	4/4	1/2	1/5
6	Total phosphorus	Total phosphorus	0/2	3/3	4/4	4/4	4/4	0/2	0/5
9	Total metals	Aluminum	2/2	2/2	4/4	4/4	4/4	1/2	5/5
		Beryllium	0/2	0/2	0/4	0/4	0/4	0/2	0/5
		Cadmium	0/2	0/2	0/4	0/4	0/4	0/2	0/5
		Chromium	0/2	0/2	0/4	0/4	0/4	0/2	0/5
		Cobalt	0/2	0/2	0/4	0/4	0/4	0/2	0/5
		Copper	0/2	0/2	0/4	0/4	0/4	0/2	0/5
		Lead	0/2	0/2	0/4	0/4	0/4	0/2	0/5
		Molybdenum	0/2	1/2	0/4	2/4	0/4	0/2	0/5
		Nickel	0/2	0/2	0/4	0/4	0/4	0/2	0/5
		Silver	0/2	0/2	0/4	0/4	0/4	0/2	0/5
		Thallium	0/2	0/2	0/4	0/4	0/4	0/2	0/5
		Vanadium	0/2	0/2	0/4	0/4	0/4	0/2	0/5
		Zinc	2/2	2/2	0/4	4/4	4/4	1/2	3/4
10	Hydrides	Antimony	0/2	0/2	0/4	0/4	0/4	1/2	2/4
		Arsenic	0/2	0/2	0/4	1/4	0/4	0/2	0/5
		Selenium	0/2	0/2	0/4	0/4	0/4	0/2	0/5
12	Mercury	Mercury	0/2	0/2	1/4	1/4	0/4	1/2	1/5
14	Phenolics (4AAP)	Phenolics (4AAP)	0/2	1/3	2/4	3/4	0/4	1/2	0/5
15	Sulphide	Sulphide	0/2	0/2	0/4	0/4	0/4	0/2	0/4

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Cyanamid (Welland)					Explosive Tech. Int.	
		NAME OF STREAM:	Intake	Millers Creek	Sludge Pond #11	North Area Sewer	Phosphine Sewer	Intake	Discharge at Weir
		STREAM CLASSIFICATION:	Intake	Combined	Combined	-	-	Intake	Combined
ANALYTICAL TEST GROUP		PARAMETERS							
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1,1,2-Trichloroethane	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1,1-Dichloroethane	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1,1-Dichloroethylene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1,2-Dichlorobenzene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1,2-Dichloroethane (Ethylene dichloride)	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1,2-Dichloropropane	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1,3-Dichlorobenzene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1,4-Dichlorobenzene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Bromoform	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Bromomethane	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Carbon tetrachloride	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Chlorobenzene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Chloroform	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Chloromethane	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Cis-1,3-Dichloropropylene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Dibromochloromethane	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Ethylene dibromide	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Methylene chloride	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Tetrachloroethylene (Perchloroethylene)	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Trans-1,2-Dichloroethylene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Trans-1,3-Dichloropropylene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Trichloroethylene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Trichlorofluoromethane	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Vinyl chloride (Chloroethylene)	0/2	0/3	0/4	0/4	0/4	0/2	0/5
17	Volatiles, Non-Halogenated	Benzene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Styrene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Toluene	0/2	0/3	4/4	1/4	0/4	0/2	0/5
		o-Xylene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		m-Xylene and p-Xylene	0/2	0/3	0/4	0/4	0/4	0/2	0/5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

			NAME OF COMPANY:	Cyanamid (Welland)					Explosive Tech. Int.	
			NAME OF STREAM:	Intake	Millers Creek	Sludge Pond #11	North Area Sewer	Phosphine Sewer	Intake	Discharge at Weir
			STREAM CLASSIFICATION:	Intake	Combined	Combined	-	-	Intake	Combined
ANALYTICAL TEST GROUP		PARAMETERS								
18	Volatiles, Water Soluble	Acrolein		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Acrylonitrile		0/2	0/3	0/4	0/4	0/4	0/2	0/5
19	Extractables, Base Neutral	Acenaphthene		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		5-nitro Acenaphthene		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Acenaphthylene		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Anthracene		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Benz(a)anthracene		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Benzo(a)pyrene		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Benzo(b)fluoranthene		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Benzo(g,h,i)perylene		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Benzo(k)fluoranthene		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Biphenyl		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Camphene		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1-Chloronaphthalene		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		2-Chloronaphthalene		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Chrysene		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Dibenz(a,h)anthracene		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Fluoranthene		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Fluorene		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Indeno(1,2,3-cd)pyrene		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Indole		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1-Methylnaphthalene		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		2-Methylnaphthalene		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Naphthalene		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Perylene		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Phenanthrene		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Pyrene		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Benzyl butyl phthalate		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Bis(2-ethylhexyl) phthalate		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Di-n-butyl phthalate		0/2	0/3	0/4	0/4	0/4	0/2	0/5
		4-Bromophenyl phenyl ether		0/2	0/3	0/4	0/4	0/4	0/2	0/5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Cyanamid (Welland)					Explosive Tech. Int.	
		NAME OF STREAM:	Intake	Millers Creek	Sludge Pond #11	North Area Sewer	Phosphine Sewer	Intake	Discharge at Weir
		STREAM CLASSIFICATION:	Intake	Combined	Combined	-	-	Intake	Combined
ANALYTICAL TEST GROUP		PARAMETERS							
19	Extractables, Base Neutral (continued)	4-Chlorophenyl phenyl ether	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Bis(2-chloroisopropyl)ether	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Bis(2-chloroethyl)ether	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Diphenyl ether	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		2,4-Dinitrotoluene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		2,6-Dinitrotoluene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Bis(2-chloroethoxy)methane	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Diphenylamine	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		N-Nitrosodiphenylamine	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		N-Nitrosodi-n-propylamine	0/2	0/3	0/4	0/4	0/4	0/2	0/5
20	Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		2,3,4,6-Tetrachlorophenol	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		2,3,5,6-Tetrachlorophenol	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		2,3,4-Trichlorophenol	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		2,3,5-Trichlorophenol	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		2,4,5-Trichlorophenol							
		2,4,6-Trichlorophenol	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		2,4-Dimethyl phenol	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		2,4-Dinitrophenol	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		2,4-Dichlorophenol	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		2,6-Dichlorophenol	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		4,6-Dinitro-o-cresol	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		2-Chlorophenol	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		4-Chloro-3-methylphenol	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		4-Nitrophenol	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		m-Cresol	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		o-Cresol	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		p-Cresol	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Pentachlorophenol	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Phenol	0/2	0/3	0/4	0/4	0/4	0/2	0/5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Cyanamid (Welland)					Explosive Tech. Int.	
		NAME OF STREAM:	Intake	Millers Creek	Sludge Pond #11	North Area Sewer	Phosphine Sewer	Intake	Discharge at Weir
		STREAM CLASSIFICATION:	Intake	Combined	Combined	-	-	Intake	Combined
ANALYTICAL TEST GROUP		PARAMETERS							
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1,2,3,5-Tetrachlorobenzene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1,2,4,5-Tetrachlorobenzene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1,2,3-Trichlorobenzene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1,2,4-Trichlorobenzene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		2,4,5-Trichlorotoluene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Hexachlorobenzene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Hexachlorobutadiene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Hexachlorocyclopentadiene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Hexachloroethane	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Octachlorostyrene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Pentachlorobenzene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0/2	0/3	0/4	0/4	0/4		0/2
		Octachlorodibenzo-p-dioxin	0/2	0/3	0/4	0/4	0/4		0/2
		Octachlorodibenzofuran	0/2	0/3	0/4	0/4	0/4		0/2
		Total heptachlorinated dibenzo-p-dioxins	0/2	0/3	0/4	0/4	0/4		0/2
		Total heptachlorinated dibenzofurans	0/2	0/3	0/4	0/4	0/4		0/2
		Total hexachlorinated dibenzo-p-dioxins	0/2	0/3	0/4	0/4	0/4		0/2
		Total hexachlorinated dibenzofurans	0/2	0/3	0/4	0/4	0/4		0/2
		Total pentachlorinated dibenzo-p-dioxins	0/2	0/3	0/4	0/4	0/4		0/2
		Total pentachlorinated dibenzofurans	0/2	0/3	0/4	0/4	0/4		0/2
		Total tetrachlorinated dibenzo-p-dioxins	0/2	0/3	0/4	0/4	0/4		0/2
		Total tetrachlorinated dibenzofurans	0/2	0/3	0/4	0/4	0/4		0/2
25	Solvent Extractables	Oil and grease	2/2	2/3	4/4	4/4	4/4	2/2	4/5
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	0/2	0/3	0/4	0/4	0/4	0/2	0/5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

			NAME OF COMPANY:	Exolon-Esk		Fiberglas Canada			
			NAME OF STREAM:	Intake	24" Outfall	Intake (Polysar)	Cole Drain	North Ditch	Cullet Cooling
			STREAM CLASSIFICATION:	Intake	Combined	Intake	Combined	-	-
ANALYTICAL TEST GROUP		PARAMETERS							
2	Cyanide	Cyanide		0/4	0/5	0/4	2/5	0/4	1/4
4a	Nitrogen	Ammonia plus Ammonium		0/4	0/5	0/4	0/5	4/4	0/4
		Total Kjeldahl nitrogen		0/4	0/5	0/4	4/5	4/4	4/4
4b		Nitrate + Nitrite		4/4	5/5	3/4	5/5	4/4	3/4
6	Total phosphorus	Total phosphorus		0/4	1/5	0/4	0/5	4/4	0/4
9	Total metals	Aluminum		4/4	5/5	1/4	1/5	4/4	1/4
		Beryllium		0/4	0/5	0/4	0/5	0/4	0/4
		Cadmium		0/4	0/5	0/4	0/5	0/4	0/4
		Chromium		0/4	0/5	0/4	0/5	0/4	0/4
		Cobalt		0/4	0/5	0/4	0/5	0/4	0/4
		Copper		0/4	2/5	0/4	0/5	0/4	0/4
		Lead		0/4	0/5	0/4	0/5	0/4	0/4
		Molybdenum		0/4	0/5	0/4	0/5	0/4	0/4
		Nickel		0/4	0/5	0/4	0/5	0/4	0/4
		Silver		0/4	0/5	0/4	0/5	0/4	0/4
		Thallium		0/4	0/5	0/4	0/5	0/4	0/4
		Vanadium		0/4	0/5	0/4	0/5	0/4	0/4
		Zinc		1/4	1/4	4/4	4/5	4/4	1/4
10	Hydrides	Antimony		0/4	0/5	1/4	1/5	0/4	2/4
		Arsenic		0/4	0/5	0/4	0/5	0/4	0/4
		Selenium		0/4	0/5	0/4	0/5	0/4	0/4
12	Mercury	Mercury		1/4	0/5	0/4	0/5	0/4	0/4
14	Phenolics (4AAP)	Phenolics (4AAP)		2/4	0/5	1/4	4/5	3/4	4/4
15	Sulphide	Sulphide		0/4	0/4	0/4	0/4	0/4	0/4

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

			NAME OF COMPANY:	General Chemical			IMC		Nitrochem		
			NAME OF STREAM:	Intake	North Drain	Main Drain	Intake	Final Effluent	Intake	Pond	Sewer
			STREAM CLASSIFICATION:	Intake	Combined	Combined	Intake	Combined	Intake	-	-
ANALYTICAL TEST GROUP		PARAMETERS									
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane		0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		1,1,2-Trichloroethane		0/4	0/5	0/4	0/2	0/5	0/4	1/5	0/4
		1,1-Dichloroethane		0/4	0/5	0/4	0/2	0/5	0/4	0/5	4/4
		1,1-Dichloroethylene		0/4	0/5	0/4	0/2	0/5	0/4	2/5	4/4
		1,2-Dichlorobenzene		0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		1,2-Dichloroethane (Ethylene dichloride)		0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		1,2-Dichloropropane		0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		1,3-Dichlorobenzene		0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		1,4-Dichlorobenzene		0/4	0/5	0/4	0/2	0/5	0/4	0/5	1/4
		Bromoform		0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		Bromomethane		0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		Carbon tetrachloride		0/4	5/5	0/4	0/2	0/5	0/4	1/5	0/4
		Chlorobenzene		0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		Chloroform		0/4	3/5	0/4	1/2	0/5	0/4	4/5	0/4
		Chloromethane		0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		Cis-1,3-Dichloropropylene		0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		Dibromochloromethane		0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		Ethylene dibromide					0/2	0/5	0/4	0/5	0/4
		Methylene chloride		1/4	3/5	0/4	0/2	0/5	0/4	0/5	0/4
		Tetrachloroethylene (Perchloroethylene)		1/4	0/5	0/4	0/2	0/5	0/4	5/5	4/4
		Trans-1,2-Dichloroethylene		1/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		Trans-1,3-Dichloropropylene		1/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		Trichloroethylene		1/4	0/5	0/4	0/2	0/5	0/4	0/5	1/4
		Trichlorofluoromethane		0/4	4/5	0/4	0/2	0/5	0/4	0/5	0/4
		Vinyl chloride (Chloroethylene)		0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
17	Volatiles, Non-Halogenated	Benzene		0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		Styrene		0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		Toluene		0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		o-Xylene		0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		m-Xylene and p-Xylene		0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	General Chemical			IMC		Nitrochem		
		NAME OF STREAM:	Intake	North Drain	Main Drain	Intake	Final Effluent	Intake	Pond	Sewer
		STREAM CLASSIFICATION:	Intake	Combined	Combined	Intake	Combined	Intake	-	-
ANALYTICAL TEST GROUP		PARAMETERS								
18	Volatiles, Water Soluble	Acrolein	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Acrylonitrile	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
19	Extractables, Base Neutral	Acenaphthene	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		5-nitro Acenaphthene	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Acenaphthylene	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Anthracene	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Benz(a)anthracene	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Benzo(a)pyrene	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Benzo(b)fluoranthene	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Benzo(g,h,i)perylene	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Benzo(k)fluoranthene	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Biphenyl								
		Camphene	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		1-Chloronaphthalene	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		2-Chloronaphthalene	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Chrysene	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Dibenz(a,h)anthracene	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Fluoranthene	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Fluorene	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Indeno(1,2,3-cd)pyrene	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Indole	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		1-Methylnaphthalene	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		2-Methylnaphthalene	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Naphthalene	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Perylene	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Phenanthrene	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Pyrene	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Benzyl butyl phthalate	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Bis(2-ethylhexyl) phthalate	0 / 4	0 / 5	0 / 4	1 / 2	1 / 5	0 / 4	0 / 5	0 / 4
		Di-n-butyl phthalate	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		4-Bromophenyl phenyl ether	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	General Chemical			IMC		Nitrochem		
		NAME OF STREAM:	Intake	North Drain	Main Drain	Intake	Final Effluent	Intake	Pond	Sewer
		STREAM CLASSIFICATION:	Intake	Combined	Combined	Intake	Combined	Intake	-	-
ANALYTICAL TEST GROUP		PARAMETERS								
19	Extractables, Base Neutral (continued)	4-Chlorophenyl phenyl ether	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		Bis(2-chloroisopropyl)ether	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		Bis(2-chloroethyl)ether	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		Diphenyl ether	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		2,4-Dinitrotoluene	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		2,6-Dinitrotoluene	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		Bis(2-chloroethoxy)methane	0/4	0/5	0/4					
		Diphenylamine	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		N-Nitrosodiphenylamine	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		N-Nitrosodi-n-propylamine	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
20	Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		2,3,4,6-Tetrachlorophenol	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		2,3,5,6-Tetrachlorophenol	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		2,3,4-Trichlorophenol	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		2,3,5-Trichlorophenol	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		2,4,5-Trichlorophenol	0/4	0/5	0/4			0/4	0/5	0/4
		2,4,6-Trichlorophenol	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		2,4-Dimethyl phenol	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		2,4-Dinitrophenol	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		2,4-Dichlorophenol	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		2,6-Dichlorophenol	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		4,6-Dinitro-o-cresol	0/4	0/5	0/4	0/2	0/5			
		2-Chlorophenol	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		4-Chloro-3-methylphenol	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		4-Nitrophenol	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		m-Cresol	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		o-Cresol	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		p-Cresol	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		Pentachlorophenol	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4
		Phenol	0/4	0/5	0/4	0/2	0/5	0/4	0/5	0/4

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

			NAME OF COMPANY:	General Chemical			IMC		Nitrochem		
			NAME OF STREAM:	Intake	North Drain	Main Drain	Intake	Final Effluent	Intake	Pond	Sewer
			STREAM CLASSIFICATION:	Intake	Combined	Combined	Intake	Combined	Intake	-	-
ANALYTICAL TEST GROUP		PARAMETERS									
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene		0 / 4	1 / 5	1 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		1,2,3,5-Tetrachlorobenzene		0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		1,2,4,5-Tetrachlorobenzene		0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		1,2,3-Trichlorobenzene		1 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		1,2,4-Trichlorobenzene		0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		2,4,5-Trichlorotoluene		0 / 4	0 / 5	1 / 4	0 / 2	0 / 5	0 / 4	2 / 5	0 / 4
		Hexachlorobenzene		0 / 4	0 / 5	1 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Hexachlorobutadiene		0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Hexachlorocyclopentadiene					0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Hexachloroethane		0 / 4	0 / 5	2 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Octachlorostyrene		0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Pentachlorobenzene		0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin		0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Octachlorodibenzo-p-dioxin		0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	1 / 5	1 / 4
		Octachlorodibenzofuran		0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Total heptachlorinated dibenzo-p-dioxins		0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Total heptachlorinated dibenzofurans		0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Total hexachlorinated dibenzo-p-dioxins		0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Total hexachlorinated dibenzofurans		0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Total pentachlorinated dibenzo-p-dioxins		0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Total pentachlorinated dibenzofurans		0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Total tetrachlorinated dibenzo-p-dioxins		0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
		Total tetrachlorinated dibenzofurans		0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	0 / 4
25	Solvent Extractables	Oil and grease		3 / 4	3 / 5	4 / 4	2 / 2	4 / 4	4 / 4	5 / 5	4 / 4
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)		0 / 4	0 / 5	0 / 4	0 / 2	0 / 5	0 / 4	0 / 5	2 / 4

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Norton					
		NAME OF STREAM:	Intake	Sewer A	Sewer B	Sewer C	Sewer D	Lagoon
		STREAM CLASSIFICATION:	Intake	Combined	Combined	Combined	Combined	
ANALYTICAL TEST GROUP		PARAMETERS						
2	Cyanide	Cyanide	0 / 4	0 / 1	0 / 4	0 / 4	0 / 4	0 / 4
4a	Nitrogen	Ammonia plus Ammonium	0 / 4	0 / 1	0 / 4	3 / 5	0 / 4	5 / 5
		Total Kjeldahl nitrogen	0 / 4	0 / 1	0 / 4	2 / 5	0 / 4	4 / 5
4b		Nitrate + Nitrite	0 / 4	1 / 1	0 / 4	1 / 5	0 / 4	2 / 5
6	Total phosphorus	Total phosphorus	0 / 4	0 / 1	1 / 4	0 / 5	0 / 4	0 / 5
9	Total metals	Aluminum	4 / 4	1 / 1	4 / 4	5 / 5	4 / 4	4 / 4
		Beryllium	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Cadmium	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Chromium	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	1 / 4
		Cobalt	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Copper	4 / 4	0 / 1	1 / 4	1 / 5	2 / 4	0 / 4
		Lead	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Molybdenum	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Nickel	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Silver	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Thallium	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Vanadium	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Zinc	3 / 4	0 / 1	1 / 4	1 / 5	2 / 4	2 / 4
10	Hydrides	Antimony	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Arsenic	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Selenium	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
12	Mercury	Mercury	1 / 4	0 / 1	0 / 4	3 / 5	0 / 4	1 / 4
14	Phenolics (4AAP)	Phenolics (4AAP)	1 / 4	0 / 1	0 / 4	1 / 5	0 / 4	2 / 5
15	Sulphide	Sulphide	0 / 4	1 / 1	0 / 4	0 / 4	0 / 4	0 / 4

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Norton					
		NAME OF STREAM:	Intake	Sewer A	Sewer B	Sewer C	Sewer D	Lagoon
		STREAM CLASSIFICATION:	Intake	Combined	Combined	Combined	Combined	
ANALYTICAL TEST GROUP		PARAMETERS						
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1,1,2-Trichloroethane	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1,1-Dichloroethane	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1,1-Dichloroethylene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1,2-Dichlorobenzene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1,2-Dichloroethane (Ethylene dichloride)	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1,2-Dichloropropane	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1,3-Dichlorobenzene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1,4-Dichlorobenzene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Bromoform	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Bromomethane	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Carbon tetrachloride	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Chlorobenzene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Chloroform	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Chloromethane	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Cis-1,3-Dichloropropylene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Dibromochloromethane	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Ethylene dibromide	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Methylene chloride	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Tetrachloroethylene (Perchloroethylene)	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	1 / 4
		Trans-1,2-Dichloroethylene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Trans-1,3-Dichloropropylene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Trichloroethylene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Trichlorofluoromethane	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Vinyl chloride (Chloroethylene)	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
17	Volatiles, Non-Halogenated	Benzene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Styrene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Toluene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		o-Xylene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		m-Xylene and p-Xylene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Norton					
		NAME OF STREAM:	Intake	Sewer A	Sewer B	Sewer C	Sewer D	Lagoon
		STREAM CLASSIFICATION:	Intake	Combined	Combined	Combined	Combined	
ANALYTICAL TEST GROUP		PARAMETERS						
18	Volatiles, Water Soluble	Acrolein	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Acrylonitrile	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
19	Extractables, Base Neutral	Acenaphthene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		5-nitro Acenaphthene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Acenaphthylene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Anthracene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Benz(a)anthracene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Benzo(a)pyrene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Benzo(b)fluoranthene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Benzo(g,h,i)perylene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Benzo(k)fluoranthene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Biphenyl	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Camphene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1-Chloronaphthalene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		2-Chloronaphthalene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Chrysene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Dibenz(a,h)anthracene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Fluoranthene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Fluorene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Indeno(1,2,3-cd)pyrene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Indole	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1-Methylnaphthalene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		2-Methylnaphthalene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Naphthalene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Perylene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Phenanthrene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Pyrene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Benzyl butyl phthalate	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Bis(2-ethylhexyl) phthalate	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Di-n-butyl phthalate	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		4-Bromophenyl phenyl ether	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Norton					
		NAME OF STREAM:	Intake	Sewer A	Sewer B	Sewer C	Sewer D	Lagoon
		STREAM CLASSIFICATION:	Intake	Combined	Combined	Combined	Combined	
ANALYTICAL TEST GROUP		PARAMETERS						
19	Extractables, Base Neutral (continued)	4-Chlorophenyl phenyl ether	0/4	0/1	0/4	0/5	0/4	0/4
		Bis(2-chloroisopropyl)ether	0/4	0/1	0/4	0/5	0/4	0/4
		Bis(2-chloroethyl)ether	0/4	0/1	0/4	0/5	0/4	0/4
		Diphenyl ether	0/4	0/1	0/4	0/5	0/4	0/4
		2,4-Dinitrotoluene	0/4	0/1	0/4	0/5	0/4	0/4
		2,6-Dinitrotoluene	0/4	0/1	0/4	0/5	0/4	0/4
		Bis(2-chloroethoxy)methane	0/4	0/1	0/4	0/5	0/4	0/4
		Diphenylamine	0/4	0/1	0/4	0/5	0/4	0/4
		N-Nitrosodiphenylamine	0/4	0/1	0/4	0/5	0/4	0/4
		N-Nitrosodi-n-propylamine	0/4	0/1	0/4	0/5	0/4	0/4
20	Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0/4	0/1	0/4	0/5	0/4	0/4
		2,3,4,6-Tetrachlorophenol	0/4	0/1	0/4	0/5	0/4	0/4
		2,3,5,6-Tetrachlorophenol	0/4	0/1	0/4	0/5	0/4	0/4
		2,3,4-Trichlorophenol	0/4	0/1	0/4	0/5	0/4	0/4
		2,3,5-Trichlorophenol	0/4	0/1	0/4	0/5	0/4	0/4
		2,4,5-Trichlorophenol	0/4	0/1	0/4	0/5	0/4	0/4
		2,4,6-Trichlorophenol	0/4	0/1	0/4	0/5	0/4	0/4
		2,4-Dimethyl phenol	0/4	0/1	0/4	0/5	0/4	0/4
		2,4-Dinitrophenol	0/4	0/1	0/4	0/5	0/4	0/4
		2,4-Dichlorophenol	0/4	0/1	0/4	0/5	0/4	0/4
		2,6-Dichlorophenol	0/4	0/1	0/4	0/5	0/4	0/4
		4,6-Dinitro-o-cresol	0/4	0/1	0/4	0/5	0/4	0/4
		2-Chlorophenol	0/4	0/1	0/4	0/5	0/4	0/4
		4-Chloro-3-methylphenol	0/4	0/1	0/4	0/5	0/4	0/4
		4-Nitrophenol	0/4	0/1	0/4	0/5	0/4	0/4
		m-Cresol	0/4	0/1	0/4	0/5	0/4	0/4
		o-Cresol	0/4	0/1	0/4	0/5	0/4	0/4
		p-Cresol	0/4	0/1	0/4	0/5	0/4	0/4
		Pentachlorophenol	0/4	0/1	0/4	0/5	0/4	0/4
		Phenol	0/4	0/1	0/4	0/5	0/4	0/4

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Norton					
		NAME OF STREAM:	Intake	Sewer A	Sewer B	Sewer C	Sewer D	Lagoon
		STREAM CLASSIFICATION:	Intake	Combined	Combined	Combined	Combined	
ANALYTICAL TEST GROUP		PARAMETERS						
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1,2,3,5-Tetrachlorobenzene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1,2,4,5-Tetrachlorobenzene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1,2,3-Trichlorobenzene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1,2,4-Trichlorobenzene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		2,4,5-Trichlorotoluene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Hexachlorobenzene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Hexachlorobutadiene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Hexachlorocyclopentadiene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Hexachloroethane	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Octachlorostyrene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Pentachlorobenzene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0 / 2	0 / 1	0 / 2	0 / 3	0 / 2	0 / 2
		Octachlorodibenzo-p-dioxin	0 / 2	0 / 1	0 / 2	0 / 3	0 / 2	0 / 2
		Octachlorodibenzofuran	0 / 2	0 / 1	0 / 2	0 / 3	0 / 2	0 / 2
		Total heptachlorinated dibenzo-p-dioxins	0 / 2	0 / 1	0 / 2	0 / 3	0 / 2	0 / 2
		Total heptachlorinated dibenzofurans	0 / 2	0 / 1	0 / 2	0 / 3	0 / 2	0 / 2
		Total hexachlorinated dibenzo-p-dioxins	0 / 2	0 / 1	0 / 2	0 / 3	0 / 2	0 / 2
		Total hexachlorinated dibenzofurans	0 / 2	0 / 1	0 / 2	0 / 3	0 / 2	0 / 2
		Total pentachlorinated dibenzo-p-dioxins	0 / 2	0 / 1	0 / 2	0 / 3	0 / 2	0 / 2
		Total pentachlorinated dibenzofurans	0 / 2	0 / 1	0 / 2	0 / 3	0 / 2	0 / 2
		Total tetrachlorinated dibenzo-p-dioxins	0 / 2	0 / 1	0 / 2	0 / 3	0 / 2	0 / 2
		Total tetrachlorinated dibenzofurans	0 / 2	0 / 1	0 / 2	0 / 3	0 / 2	0 / 2
25	Solvent Extractables	Oil and grease	3 / 4	1 / 1	3 / 4	3 / 5	4 / 4	0 / 1
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Partek Insulations		Stanchem			Sulco	
		NAME OF STREAM:	East Storm Drain	Cooling Water Overflow	Intake (City)	Intake (Well)	Conpac	Intake	Final Effluent
		STREAM CLASSIFICATION:	Storm	Combined	Intake	Intake	Batch	Intake	Combined
ANALYTICAL TEST GROUP		PARAMETERS							
2	Cyanide	Cyanide	1 / 3	0 / 1	0 / 2	0 / 2	0 / 4		0 / 1
4a	Nitrogen	Ammonia plus Ammonium	3 / 3	1 / 1	0 / 2	2 / 2	0 / 4	0 / 1	1 / 5
		Total Kjeldahl nitrogen	3 / 3	1 / 1	0 / 2	0 / 2	0 / 4	0 / 1	1 / 5
4b		Nitrate + Nitrite	3 / 3	1 / 1	1 / 2	0 / 2	4 / 4		1 / 1
6	Total phosphorus	Total phosphorus	1 / 3	1 / 1	0 / 2	0 / 2	4 / 4	0 / 1	5 / 5
9	Total metals	Aluminum	3 / 3	1 / 1			4 / 4	1 / 1	4 / 5
		Beryllium	0 / 3	0 / 1			0 / 4	0 / 1	0 / 5
		Cadmium	0 / 3	0 / 1			4 / 4	0 / 1	0 / 5
		Chromium	0 / 3	0 / 1			4 / 4	0 / 1	0 / 5
		Cobalt	0 / 3	0 / 1			0 / 4	0 / 1	0 / 5
		Copper	1 / 3	0 / 1			4 / 4	1 / 1	3 / 5
		Lead	0 / 3	0 / 1			4 / 4	0 / 1	0 / 5
		Molybdenum	2 / 3	0 / 1			0 / 4	0 / 1	0 / 5
		Nickel	0 / 3	0 / 1			4 / 4	0 / 1	3 / 5
		Silver	0 / 3	0 / 1			0 / 4	0 / 1	0 / 5
		Thallium	0 / 3	0 / 1			0 / 4	0 / 1	0 / 5
		Vanadium	0 / 3	0 / 1			2 / 4	0 / 1	5 / 5
		Zinc	3 / 3	1 / 1			4 / 4	1 / 1	5 / 5
10	Hydrides	Antimony	0 / 3	0 / 1			2 / 4	0 / 1	0 / 5
		Arsenic	1 / 3	0 / 1			3 / 4	1 / 1	5 / 5
		Selenium	0 / 3	0 / 1			0 / 4	0 / 1	0 / 5
12	Mercury	Mercury	0 / 3	0 / 1			4 / 4	1 / 1	0 / 4
14	Phenolics (4AAP)	Phenolics (4AAP)	2 / 3	0 / 1			0 / 4	0 / 1	4 / 5
15	Sulphide	Sulphide	2 / 2	0 / 1			0 / 4	0 / 1	4 / 4

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Partek Insulations		Stanchem			Sulco	
		NAME OF STREAM:	East Storm Drain	Cooling Water Overflow	Intake (City)	Intake (Well)	Conpac	Intake	Final Effluent
		STREAM CLASSIFICATION:	Storm	Combined	Intake	Intake	Batch	Intake	Combined
ANALYTICAL TEST GROUP		PARAMETERS							
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	0/2	0/1	0/2	0/2	0/4	0/1	0/5
		1,1,2-Trichloroethane	0/2	0/1	0/2	0/2	0/4	0/1	0/5
		1,1-Dichloroethane		0/1	0/2	0/2	0/4	0/1	0/5
		1,1-Dichloroethylene	0/2	0/1	0/2	0/2	0/4	0/1	0/5
		1,2-Dichlorobenzene	0/2	0/1	0/2	0/2	0/4	0/1	0/5
		1,2-Dichloroethane (Ethylene dichloride)	0/2	0/1	0/2	0/2	0/4	0/1	0/5
		1,2-Dichloropropane	0/2	0/1	0/2	0/2	0/4	0/1	0/5
		1,3-Dichlorobenzene	0/2	0/1	0/2	0/2	0/4	0/1	0/5
		1,4-Dichlorobenzene	0/2	0/1	0/2	0/2	0/4	0/1	0/5
		Bromoform	0/2	0/1	0/2	0/2	0/4	0/1	0/5
		Bromomethane		0/1	0/2	0/2	0/4	0/1	0/5
		Carbon tetrachloride	0/2	0/1	0/2	0/2	0/4	0/1	0/5
		Chlorobenzene	0/2	0/1	0/2	0/2	0/4	0/1	0/5
		Chloroform	0/2	0/1	2/2	0/2	4/4	0/1	0/5
		Chloromethane		0/1	0/2	0/2	2/4	0/1	0/5
		Cis-1,3-Dichloropropylene	0/2	0/1	0/2	0/2	0/4	0/1	0/5
		Dibromochloromethane	0/2	0/1	0/2	0/2	3/4	0/1	0/5
		Ethylene dibromide	0/2	0/1	0/2	0/2	0/4	0/1	0/5
		Methylene chloride	0/2	0/1	0/2	0/2	0/4	0/1	0/5
		Tetrachloroethylene (Perchloroethylene)	0/2	0/1	0/2	0/2	4/4	0/1	0/5
		Trans-1,2-Dichloroethylene	0/2	0/1	0/2	0/2	0/4	0/1	0/5
		Trans-1,3-Dichloropropylene	0/2	0/1	0/2	0/2	0/4	0/1	0/5
		Trichloroethylene	0/2	0/1	0/2	0/2	0/4	0/1	0/5
		Trichlorofluoromethane	0/2	0/1	0/2	0/2	0/4	0/1	0/5
		Vinyl chloride (Chloroethylene)		0/1	0/2	0/2	0/4	0/1	0/5
17	Volatiles, Non-Halogenated	Benzene	0/2	0/1	0/2	0/2	0/4	0/1	0/5
		Styrene	0/2	0/1	0/2	0/2	0/4	0/1	0/5
		Toluene	0/2	0/1	0/2	0/2	0/4	0/1	2/5
		o-Xylene	0/2	0/1	0/2	0/2	0/4	0/1	0/5
		m-Xylene and p-Xylene	0/2	0/1	0/2	0/2	0/4	0/1	0/5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Partek Insulations		Stanchem			Sulco	
		NAME OF STREAM:	East Storm Drain	Cooling Water Overflow	Intake (City)	Intake (Well)	Conpac	Intake	Final Effluent
		STREAM CLASSIFICATION:	Storm	Combined	Intake	Intake	Batch	Intake	Combined
ANALYTICAL TEST GROUP		PARAMETERS							
18	Volatiles, Water Soluble	Acrolein			0/2	0/2	0/4	0/1	0/5
		Acrylonitrile			0/2	0/2	0/4	0/1	0/5
19	Extractables, Base Neutral	Acenaphthene	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		5-nitro Acenaphthene		0/1	0/2	0/2	0/4	0/1	0/5
		Acenaphthylene		0/1	0/2	0/2	0/4	0/1	0/5
		Anthracene	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		Benz(a)anthracene	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		Benzo(a)pyrene	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		Benzo(b)fluoranthene	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		Benzo(g,h,i)perylene	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		Benzo(k)fluoranthene	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		Biphenyl		0/1	0/2	0/2	0/4		
		Camphene		0/1	0/2	0/2	0/4		
		1-Chloronaphthalene		0/1	0/2	0/2	0/4	0/1	0/5
		2-Chloronaphthalene		0/1	0/2	0/2	0/4	0/1	0/5
		Chrysene	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		Dibenz(a,h)anthracene	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		Fluoranthene	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		Fluorene	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		Indeno(1,2,3-cd)pyrene	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		Indole		0/1	0/2	0/2	0/4	0/1	0/5
		1-Methylnaphthalene		0/1	0/2	0/2	0/4	0/1	0/5
		2-Methylnaphthalene		0/1	0/2	0/2	0/4	0/1	0/5
		Naphthalene	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		Perylene		0/1	0/2	0/2	0/4		
		Phenanthrene	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		Pyrene		0/1	0/2	0/2	0/4	0/1	0/5
		Benzyl butyl phthalate		0/1	0/2	0/2	0/4	0/1	0/5
		Bis(2-ethylhexyl) phthalate		0/1	0/2	0/2	1/4	0/1	0/5
		Di-n-butyl phthalate	0/3	0/1	0/2	0/2	1/4	0/1	0/5
		4-Bromophenyl phenyl ether	0/3	0/1	0/2	0/2	0/4	0/1	0/5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Partek Insulations		Stanchem			Sulco	
		NAME OF STREAM:	East Storm Drain	Cooling Water Overflow	Intake (City)	Intake (Well)	Conpac	Intake	Final Effluent
		STREAM CLASSIFICATION:	Storm	Combined	Intake	Intake	Batch	Intake	Combined
ANALYTICAL TEST GROUP		PARAMETERS							
19	Extractables, Base Neutral (continued)	4-Chlorophenyl phenyl ether	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		Bis(2-chloroisopropyl)ether	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		Bis(2-chloroethyl)ether	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		Diphenyl ether		0/1	0/2	0/2	0/4	0/1	0/5
		2,4-Dinitrotoluene	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		2,6-Dinitrotoluene	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		Bis(2-chloroethoxy)methane	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		Diphenylamine		0/1	0/2	0/2	0/4	0/1	0/5
		N-Nitrosodiphenylamine	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		N-Nitrosodi-n-propylamine	0/3	0/1	0/2	0/2	0/4	0/1	0/5
20	Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol		0/1	0/2	0/2	0/4	0/1	0/5
		2,3,4,6-Tetrachlorophenol		0/1	0/2	0/2	0/4	0/1	0/5
		2,3,5,6-Tetrachlorophenol		0/1	0/2	0/2	0/4	0/1	0/5
		2,3,4-Trichlorophenol		0/1	0/2	0/2	0/4	0/1	0/5
		2,3,5-Trichlorophenol		0/1	0/2	0/2	0/4	0/1	0/5
		2,4,5-Trichlorophenol		0/1	0/2	0/2	0/4	0/1	0/5
		2,4,6-Trichlorophenol	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		2,4-Dimethyl phenol	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		2,4-Dinitrophenol	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		2,4-Dichlorophenol	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		2,6-Dichlorophenol		0/1	0/2	0/2	0/4	0/1	0/5
		4,6-Dinitro-o-cresol	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		2-Chlorophenol	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		4-Chloro-3-methylphenol		0/1	0/2	0/2	0/4		
		4-Nitrophenol	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		m-Cresol		0/1	0/2	0/2	0/4	0/1	0/5
		o-Cresol		0/1	0/2	0/2	0/4	0/1	0/5
		p-Cresol		0/1	0/2	0/2	0/4	0/1	0/5
		Pentachlorophenol	0/3	0/1	0/2	0/2	0/4	0/1	0/5
		Phenol	0/3	0/1	0/2	0/2	0/4	0/1	0/5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Partek Insulations		Stanchem			Sulco	
		NAME OF STREAM:	East Storm Drain	Cooling Water Overflow	Intake (City)	Intake (Well)	Conpac	Intake	Final Effluent
		STREAM CLASSIFICATION:	Storm	Combined	Intake	Intake	Batch	Intake	Combined
	ANALYTICAL TEST GROUP	PARAMETERS							
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0 / 3	0 / 1	0 / 2	0 / 2	2 / 4	0 / 1	0 / 5
		1,2,3,5-Tetrachlorobenzene	0 / 3	0 / 1	0 / 2	0 / 2	0 / 4	0 / 1	0 / 5
		1,2,4,5-Tetrachlorobenzene	0 / 3	0 / 1	0 / 2	0 / 2	0 / 4	0 / 1	0 / 5
		1,2,3-Trichlorobenzene	0 / 3	0 / 1	0 / 2	0 / 2	0 / 4	0 / 1	0 / 5
		1,2,4-Trichlorobenzene	0 / 3	0 / 1	0 / 2	0 / 2	0 / 4	0 / 1	0 / 5
		2,4,5-Trichlorotoluene	0 / 3	0 / 1	0 / 2	0 / 2	1 / 4	0 / 1	0 / 5
		Hexachlorobenzene	0 / 3	0 / 1	0 / 2	0 / 2	4 / 4	0 / 1	0 / 5
		Hexachlorobutadiene	0 / 3	0 / 1	0 / 2	0 / 2	0 / 4	0 / 1	0 / 5
		Hexachlorocyclopentadiene	0 / 3	0 / 1	0 / 2	0 / 2	0 / 4	0 / 1	0 / 5
		Hexachloroethane	0 / 3	0 / 1	0 / 2	0 / 2	4 / 4	0 / 1	0 / 5
		Octachlorostyrene		0 / 1	0 / 2	0 / 2	1 / 4	0 / 1	0 / 5
		Pentachlorobenzene	0 / 3	0 / 1	0 / 2	0 / 2	0 / 4	0 / 1	0 / 5
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0 / 2	0 / 1			0 / 4	0 / 1	0 / 1
		Octachlorodibenzo-p-dioxin	0 / 2	0 / 1			0 / 4	0 / 1	0 / 1
		Octachlorodibenzofuran	0 / 2	0 / 1			0 / 4	0 / 1	0 / 1
		Total heptachlorinated dibenzo-p-dioxins	0 / 2	0 / 1			0 / 4	0 / 1	0 / 1
		Total heptachlorinated dibenzofurans	0 / 2	0 / 1			0 / 4	0 / 1	0 / 1
		Total hexachlorinated dibenzo-p-dioxins	0 / 2	0 / 1			0 / 4	0 / 1	0 / 1
		Total hexachlorinated dibenzofurans	0 / 2	0 / 1			0 / 4	0 / 1	0 / 1
		Total pentachlorinated dibenzo-p-dioxins	0 / 2	0 / 1			0 / 4	0 / 1	0 / 1
		Total pentachlorinated dibenzofurans	0 / 2	0 / 1			0 / 4	0 / 1	0 / 1
		Total tetrachlorinated dibenzo-p-dioxins	0 / 2	0 / 1			0 / 4	0 / 1	0 / 1
		Total tetrachlorinated dibenzofurans	0 / 2	0 / 1			0 / 4	0 / 1	0 / 1
25	Solvent Extractables	Oil and grease	2 / 3	1 / 1			2 / 4	1 / 1	3 / 5
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	0 / 2	0 / 1	0 / 2	0 / 2	0 / 4	0 / 1	0 / 5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Union Carbide				Washington Mills	
		NAME OF STREAM:	Intake	#2 Weir	Gov't Dock	Pump House	Intake	Final Effluent
		STREAM CLASSIFICATION:	Intake	OTCW	Combined	Combined	Intake	Combined
ANALYTICAL TEST GROUP		PARAMETERS						
2	Cyanide	Cyanide	0/3	0/5	0/4	0/4	0/2	0/5
4a	Nitrogen	Ammonia plus Ammonium	0/3	1/5	0/4	0/4	1/2	3/5
		Total Kjeldahl nitrogen	0/3	1/5	0/4	0/4	1/2	3/5
4b		Nitrate + Nitrite	2/3	4/5	4/4	1/4	1/2	0/5
6	Total phosphorus	Total phosphorus	0/3	1/5	1/4	0/4	0/2	0/5
9	Total metals	Aluminum	1/4	3/5	0/4	2/4	1/2	5/5
		Beryllium	0/4	0/5	0/4	0/4	0/2	0/5
		Cadmium	0/4	0/5	0/4	0/4	0/2	0/5
		Chromium	0/4	0/5	0/4	0/4	0/2	0/5
		Cobalt	0/4	0/5	0/4	0/4	0/2	0/5
		Copper	0/4	0/5	0/4	0/4	0/2	0/5
		Lead	0/4	0/5	0/4	0/4	0/2	0/5
		Molybdenum	0/4	0/5	0/4	0/4	0/2	0/5
		Nickel	0/4	0/5	0/4	0/4	0/2	0/5
		Silver	0/4	0/5	0/4	0/4	0/2	0/5
		Thallium	0/4	0/5	0/4	0/4	0/2	0/5
		Vanadium	0/4	0/5	0/4	0/4	0/2	0/5
		Zinc	0/4	2/5	3/4	0/4	0/2	0/5
10	Hydrides	Antimony	0/4	0/5	0/4	0/4	0/2	0/5
		Arsenic	0/4	0/5	0/4	0/4	0/2	0/5
		Selenium	0/4	0/5	0/4	0/4	0/2	0/5
12	Mercury	Mercury	0/4	0/5	2/4	2/4	0/2	0/5
14	Phenolics (4AAP)	Phenolics (4AAP)	0/4	5/5	1/4	0/4	2/2	4/5
15	Sulphide	Sulphide	0/4	0/4	0/4	0/4	2/2	4/4

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Union Carbide				Washington Mills	
		NAME OF STREAM:	Intake	#2 Weir	Gov't Dock	Pump House	Intake	Final Effluent
		STREAM CLASSIFICATION:	Intake	OTCW	Combined	Combined	Intake	Combined
ANALYTICAL TEST GROUP		PARAMETERS						
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		1,1,2-Trichloroethane	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		1,1-Dichloroethane	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		1,1-Dichloroethylene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		1,2-Dichlorobenzene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		1,2-Dichloroethane (Ethylene dichloride)	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		1,2-Dichloropropane	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		1,3-Dichlorobenzene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		1,4-Dichlorobenzene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Bromoform	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Bromomethane	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Carbon tetrachloride	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Chlorobenzene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Chloroform	0 / 3	0 / 5	0 / 4	0 / 4	1 / 2	0 / 5
		Chloromethane	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Cis-1,3-Dichloropropylene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Dibromochloromethane	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Ethylene dibromide	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Methylene chloride	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Tetrachloroethylene (Perchloroethylene)	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Trans-1,2-Dichloroethylene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Trans-1,3-Dichloropropylene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Trichloroethylene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Trichlorofluoromethane	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Vinyl chloride (Chloroethylene)	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
17	Volatiles, Non-Halogenated	Benzene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Styrene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Toluene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		o-Xylene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		m-Xylene and p-Xylene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Union Carbide				Washington Mills	
		NAME OF STREAM:	Intake	#2 Weir	Gov't Dock	Pump House	Intake	Final Effluent
		STREAM CLASSIFICATION:	Intake	OTCW	Combined	Combined	Intake	Combined
ANALYTICAL TEST GROUP		PARAMETERS						
18	Volatiles, Water Soluble	Acrolein	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Acrylonitrile	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
19	Extractables, Base Neutral	Acenaphthene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		5-nitro Acenaphthene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Acenaphthylene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Anthracene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Benz(a)anthracene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Benzo(a)pyrene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Benzo(b)fluoranthene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Benzo(g,h,i)perylene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Benzo(k)fluoranthene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Biphenyl	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Camphene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		1-Chloronaphthalene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		2-Chloronaphthalene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Chrysene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Dibenz(a,h)anthracene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Fluoranthene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Fluorene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Indeno(1,2,3-cd)pyrene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Indole	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		1-Methylnaphthalene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		2-Methylnaphthalene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Naphthalene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Perylene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Phenanthrene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Pyrene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Benzyl butyl phthalate	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Bis(2-ethylhexyl) phthalate	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Di-n-butyl phthalate	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		4-Bromophenyl phenyl ether	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Union Carbide				Washington Mills	
		NAME OF STREAM:	Intake	#2 Weir	Gov't Dock	Pump House	Intake	Final Effluent
		STREAM CLASSIFICATION:	Intake	OTCW	Combined	Combined	Intake	Combined
ANALYTICAL TEST GROUP		PARAMETERS						
19	Extractables, Base Neutral (continued)	4-Chlorophenyl phenyl ether	0/3	0/5	0/4	0/4	0/2	0/5
		Bis(2-chloroisopropyl)ether	0/3	0/5	0/4	0/4	0/2	0/5
		Bis(2-chloroethyl)ether	0/3	0/5	0/4	0/4	0/2	0/5
		Diphenyl ether	0/3	0/5	0/4	0/4	0/2	0/5
		2,4-Dinitrotoluene	0/3	0/5	0/4	0/4	0/2	0/5
		2,6-Dinitrotoluene	0/3	0/5	0/4	0/4	0/2	0/5
		Bis(2-chloroethoxy)methane	0/3	0/5	0/4	0/4	0/2	0/5
		Diphenylamine	0/3	0/5	0/4	0/4	0/2	0/5
		N-Nitrosodiphenylamine	0/3	0/5	0/4	0/4	0/2	0/5
		N-Nitrosodi-n-propylamine	0/3	0/5	0/4	0/4	0/2	0/5
20	Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0/3	0/5	0/4	0/4	0/2	0/5
		2,3,4,6-Tetrachlorophenol	0/3	0/5	0/4	0/4	0/2	0/5
		2,3,5,6-Tetrachlorophenol	0/3	0/5	0/4	0/4	0/2	0/5
		2,3,4-Trichlorophenol	0/3	0/5	0/4	0/4	0/2	0/5
		2,3,5-Trichlorophenol	0/3	0/5	0/4	0/4	0/2	0/5
		2,4,5-Trichlorophenol	0/3	0/5	0/4	0/4	0/2	0/5
		2,4,6-Trichlorophenol	0/3	0/5	0/4	0/4	0/2	0/5
		2,4-Dimethyl phenol	0/3	0/5	0/4	0/4	0/2	0/5
		2,4-Dinitrophenol	0/3	0/5	0/4	0/4	0/2	0/5
		2,4-Dichlorophenol	0/3	0/5	0/4	0/4	0/2	0/5
		2,6-Dichlorophenol	0/3	0/5	0/4	0/4	0/2	0/5
		4,6-Dinitro-o-cresol	0/3	0/5	0/4	0/4	0/2	0/5
		2-Chlorophenol	0/3	0/5	0/4	0/4	0/2	0/5
		4-Chloro-3-methylphenol	0/3	0/5	0/4	0/4	0/2	0/5
		4-Nitrophenol	0/3	0/5	0/4	0/4	0/2	0/5
		m-Cresol	0/3	0/5	0/4	0/4	0/2	0/5
		o-Cresol	0/3	0/5	0/4	0/4	0/2	0/5
		p-Cresol	0/3	0/5	0/4	0/4	0/2	0/5
		Pentachlorophenol	0/3	0/5	0/4	0/4	0/2	0/5
		Phenol	0/3	0/5	0/4	0/4	0/2	0/5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Union Carbide				Washington Mills	
		NAME OF STREAM:	Intake	#2 Weir	Gov't Dock	Pump House	Intake	Final Effluent
		STREAM CLASSIFICATION:	Intake	OTCW	Combined	Combined	Intake	Combined
ANALYTICAL TEST GROUP		PARAMETERS						
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		1,2,3,5-Tetrachlorobenzene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		1,2,4,5-Tetrachlorobenzene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		1,2,3-Trichlorobenzene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		1,2,4-Trichlorobenzene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		2,4,5-Trichlorotoluene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Hexachlorobenzene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Hexachlorobutadiene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Hexachlorocyclopentadiene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Hexachloroethane	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Octachlorostyrene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
		Pentachlorobenzene	0 / 3	0 / 5	0 / 4	0 / 4	0 / 2	0 / 5
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2
		Octachlorodibenzo-p-dioxin	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2
		Octachlorodibenzofuran	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2
		Total heptachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2
		Total heptachlorinated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2
		Total hexachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2
		Total hexachlorinated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2
		Total pentachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2
		Total pentachlorinated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2
		Total tetrachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2
		Total tetrachlorinated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2
25	Solvent Extractables	Oil and grease	3 / 4	4 / 4	5 / 5	3 / 4	2 / 2	5 / 5
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	0 / 3	0 / 4	0 / 5	0 / 4	0 / 2	0 / 5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Washington Mills	Electro Minerals	Welland Chemical		
		NAME OF STREAM:	Intake	Queen Lagoon	Intake	South Lagoon	# 1 Lagoon
		STREAM CLASSIFICATION:	Intake	Combined	Intake	Batch	Batch
ANALYTICAL TEST GROUP		PARAMETERS					
2	Cyanide	Cyanide	0 / 2	0 / 5	0 / 1	0 / 2	1 / 2
4a	Nitrogen	Ammonia plus Ammonium	0 / 2	0 / 5	0 / 1	2 / 2	2 / 2
		Total Kjeldahl nitrogen	0 / 2	0 / 5	0 / 1	2 / 2	2 / 2
4b		Nitrate + Nitrite	1 / 2	3 / 5	0 / 1	1 / 2	2 / 2
6	Total phosphorus	Total phosphorus	0 / 2	0 / 5	1 / 1	1 / 2	1 / 2
9	Total metals	Aluminum	2 / 2	5 / 5	0 / 1	1 / 2	1 / 2
		Beryllium	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Cadmium	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Chromium	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Cobalt	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Copper	0 / 2	0 / 5	0 / 1	1 / 2	1 / 2
		Lead	0 / 2	0 / 5	0 / 1	1 / 2	0 / 2
		Molybdenum	0 / 2	0 / 5	0 / 1	0 / 1	1 / 1
		Nickel	0 / 2	0 / 5	0 / 1	1 / 1	0 / 1
		Silver	0 / 2	0 / 5	0 / 1	0 / 1	0 / 1
		Thallium	0 / 2	0 / 5	0 / 1	0 / 1	0 / 1
		Vanadium	0 / 2	0 / 5	0 / 1	0 / 1	0 / 1
		Zinc	0 / 2	0 / 5	1 / 1	1 / 2	2 / 2
10	Hydrides	Antimony	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Arsenic	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Selenium	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
12	Mercury	Mercury	0 / 2	0 / 5	0 / 1	1 / 2	0 / 2
14	Phenolics (4AAP)	Phenolics (4AAP)	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
15	Sulphide	Sulphide	0 / 2	0 / 4	0 / 1	0 / 1	0 / 1

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

			NAME OF COMPANY:	Washington Mills	Electro Minerals	Welland Chemical		
			NAME OF STREAM:	Intake	Queen Lagoon	Intake	South Lagoon	# 1 Lagoon
			STREAM CLASSIFICATION:	Intake	Combined	Intake	Batch	Batch
ANALYTICAL TEST GROUP		PARAMETERS						
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		1,1,2-Trichloroethane		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		1,1-Dichloroethane		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		1,1-Dichloroethylene		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		1,2-Dichlorobenzene		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		1,2-Dichloroethane (Ethylene dichloride)		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		1,2-Dichloropropane		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		1,3-Dichlorobenzene		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		1,4-Dichlorobenzene		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Bromoform		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Bromomethane		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Carbon tetrachloride		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Chlorobenzene		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Chloroform		0 / 2	0 / 5	1 / 1	1 / 2	1 / 2
		Chloromethane		0 / 2	0 / 5			0 / 2
		Cis-1,3-Dichloropropylene		0 / 2	0 / 5			0 / 2
		Dibromochloromethane		0 / 2	0 / 5	1 / 1	1 / 2	1 / 2
		Ethylene dibromide		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Methylene chloride		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Tetrachloroethylene (Perchloroethylene)		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Trans-1,2-Dichloroethylene		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Trans-1,3-Dichloropropylene		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Trichloroethylene		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Trichlorofluoromethane		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Vinyl chloride (Chloroethylene)		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
17	Volatiles, Non-Halogenated	Benzene		0 / 2	0 / 5	0 / 1	1 / 2	0 / 2
		Styrene		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Toluene		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		o-Xylene		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		m-Xylene and p-Xylene		0 / 2	0 / 5	0 / 1	0 / 2	0 / 2

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Washington Mills	Electro Minerals	Welland Chemical		
		NAME OF STREAM:	Intake	Queen Lagoon	Intake	South Lagoon	# 1 Lagoon
		STREAM CLASSIFICATION:	Intake	Combined	Intake	Batch	Batch
ANALYTICAL TEST GROUP		PARAMETERS					
18	Volatiles, Water Soluble	Acrolein	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Acrylonitrile	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
19	Extractables, Base Neutral	Acenaphthene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		5-nitro Acenaphthene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Acenaphthylene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Anthracene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Benz(a)anthracene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Benzo(a)pyrene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Benzo(b)fluoranthene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Benzo(g,h,i)perylene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Benzo(k)fluoranthene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Biphenyl	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Camphene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		1-Chloronaphthalene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		2-Chloronaphthalene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Chrysene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Dibenz(a,h)anthracene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Fluoranthene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Fluorene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Indeno(1,2,3-cd)pyrene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Indole	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		1-Methylnaphthalene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		2-Methylnaphthalene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Naphthalene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Perylene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Phenanthrene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Pyrene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Benzyl butyl phthalate	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Bis(2-ethylhexyl) phthalate	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Di-n-butyl phthalate	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		4-Bromophenyl phenyl ether	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Washington Mills	Electro Minerals	Welland Chemical		
		NAME OF STREAM:	Intake	Queen Lagoon	Intake	South Lagoon	# 1 Lagoon
		STREAM CLASSIFICATION:	Intake	Combined	Intake	Batch	Batch
ANALYTICAL TEST GROUP		PARAMETERS					
19	Extractables, Base Neutral (continued)	4-Chlorophenyl phenyl ether	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Bis(2-chloroisopropyl)ether	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Bis(2-chloroethyl)ether	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Diphenyl ether	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		2,4-Dinitrotoluene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		2,6-Dinitrotoluene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Bis(2-chloroethoxy)methane	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Diphenylamine	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		N-Nitrosodiphenylamine	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		N-Nitrosodi-n-propylamine	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
20	Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		2,3,4,6-Tetrachlorophenol	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		2,3,5,6-Tetrachlorophenol	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		2,3,4-Trichlorophenol	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		2,3,5-Trichlorophenol	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		2,4,5-Trichlorophenol			0 / 1	0 / 2	0 / 2
		2,4,6-Trichlorophenol	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		2,4-Dimethyl phenol	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		2,4-Dinitrophenol	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		2,4-Dichlorophenol	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		2,6-Dichlorophenol	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		4,6-Dinitro-o-cresol	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		2-Chlorophenol	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		4-Chloro-3-methylphenol	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		4-Nitrophenol	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		m-Cresol	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		o-Cresol	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		p-Cresol	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Pentachlorophenol	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Phenol	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Washington Mills	Electro Minerals	Welland Chemical		
		NAME OF STREAM:	Intake	Queen Lagoon	Intake	South Lagoon	# 1 Lagoon
		STREAM CLASSIFICATION:	Intake	Combined	Intake	Batch	Batch
ANALYTICAL TEST GROUP		PARAMETERS					
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		1,2,3,5-Tetrachlorobenzene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		1,2,4,5-Tetrachlorobenzene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		1,2,3-Trichlorobenzene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		1,2,4-Trichlorobenzene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		2,4,5-Trichlorotoluene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Hexachlorobenzene	0 / 2	0 / 5	0 / 1	2 / 2	2 / 2
		Hexachlorobutadiene	0 / 2	0 / 5	0 / 1	1 / 2	0 / 2
		Hexachlorocyclopentadiene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Hexachloroethane	0 / 2	0 / 5	0 / 1	2 / 2	1 / 2
		Octachlorostyrene	0 / 2	0 / 5	0 / 1	0 / 2	0 / 2
		Pentachlorobenzene	0 / 2	0 / 5	0 / 1	1 / 2	0 / 2
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0 / 1	0 / 3	0 / 1	0 / 2	0 / 2
		Octachlorodibenzo-p-dioxin	0 / 1	0 / 3	0 / 1	0 / 2	0 / 2
		Octachlorodibenzofuran	0 / 1	0 / 3	0 / 1	0 / 2	0 / 2
		Total heptachlorinated dibenzo-p-dioxins	0 / 1	0 / 3	0 / 1	0 / 2	0 / 2
		Total heptachlorinated dibenzofurans	0 / 1	0 / 3	0 / 1	0 / 2	0 / 2
		Total hexachlorinated dibenzo-p-dioxins	0 / 1	0 / 3	0 / 1	0 / 2	0 / 2
		Total hexachlorinated dibenzofurans	0 / 1	0 / 3	0 / 1	0 / 2	0 / 2
		Total pentachlorinated dibenzo-p-dioxins	0 / 1	0 / 3	0 / 1	0 / 2	0 / 2
		Total pentachlorinated dibenzofurans	0 / 1	0 / 3	0 / 1	0 / 2	0 / 2
		Total tetrachlorinated dibenzo-p-dioxins	0 / 1	0 / 3	0 / 1	0 / 2	0 / 2
		Total tetrachlorinated dibenzofurans	0 / 1	0 / 3	0 / 1	0 / 2	0 / 2
25	Solvent Extractables	Oil and grease	2 / 2	4 / 5	1 / 1	1 / 2	1 / 2
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	0 / 2	0 / 5	1 / 1	0 / 2	0 / 2

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

LIMITATIONS OF TABLE 3

1. Indication of presence/absence of contaminants for inlet and outlet streams may not occur on the same day.
2. Presence of a contaminant in a stream in this table did not necessarily mean a contaminant was automatically assigned for monitoring in that stream That is, upstream/downstream sampling points at source/combined streams were used if technically superior.
3. Does not show the degree of deviation from the respective laboratory method detection limits for inlet/outlet streams
4. Does not show historical data.

TABLE 4 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING PROGRAM

NUMBER OF OPEN SCANS AND DIOXIN TESTS PER PLANT

SITE	STREAM	OPEN SCANS		DIOXINS	
		INDUSTRY	MOE	INDUSTRY	MOE
Albright & Wilson	Intake	2	-	2	
	Final Discharge	2	1	2	1
Allied Chemicals	Intake	2	-	2	-
	Genetron Effluent	2	1	2	1
	Mailloux	2	-	2	
Cabot	Intake				
	Discharge from Filter Bed	2	1	2	1
CIL (Cornwall)	Intake (City)	2	-	-	-
	Intake (Well)	2	-	-	-
	Manhole 15	4	-	4	-
	LEL-2	4	1	4	1
CIL (Courtright)	Intake	1	-	1	-
	Drainage Ditch	1	-	1	-
	Gypsum Ponds	1	-	1	-
	30" Concrete Pipe	1	-	1	-
	18" Black Poly. Pipe	1	-	1	-
	Manhole #55	1	-	1	-
	42" from A-II	1	-	1	-
	Final Effluent	1	1	1	1
Columbian	West Outfall	2	1	2	1
	East Outfall	2	-	2	-
Cyanamid (Niagara)	Intake	2	-	2	-
	Whitty Creek	2	-	2	-
	Hydro Canal	2	1	2	1
	Manhole 140	2	-	2	-
Cyanamid (Welland)	Intake	2	-	2	-
	Thompsons Creek	2	1	2	1
	Sludge Pond #11	4	-	4	-
	North Area Sewer	4	-	4	-
	Phosphine Sewer	4	-	4	-
Explosive Tech. Int.	Intake	-	-	-	-
	Discharge at Weir	2	1	2	1
Exolon-Esk	Intake	-	-	-	-
	24" Outfall	2	1	2	1

TABLE 4 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING PROGRAM

NUMBER OF OPEN SCANS AND DIOXIN TESTS PER PLANT

SITE	STREAM	OPEN SCANS		DIOXINS	
		INDUSTRY	MOE	INDUSTRY	MOE
Fiberglas Canada	Intake (Polysar)	2	-	-	-
	Cole Drain	4	1	-	1
	North Ditch	4	-	-	-
	Cullet Cooling	4	-	2	-
General Chemical	Intake	2	-	2	-
	North Drain	2	1	2	1
	Main Drain	2	-	2	-
IMC	Intake	2	-	2	-
	Final Effluent	4	1	4	1
Nitrochem	Intake	4	-	4	-
	Pond	4	1	4	-
	Sewer	4	-	4	1
Norton	Intake	2	-	2	-
	Sewer A	2	-	2	-
	Sewer B	2	-	2	-
	Sewer C	2	1	2	1
	Sewer D	2	-	2	-
	Lagoon	2	-	2	-
Partek Insulations	East Storm Drain	-	1	2	1
	Cooling Water Overflow	-	1	-	1
Stanchem	Intake (City)	2	-	-	-
	Intake (Well)	2	-	-	-
	Conpac	4	-	4	-
Sulco	Intake	1	-	1	-
	Final Effluent	4	1	1	1
Union Carbide	Intake	2	-	2	-
	#2 Weir	2	1	2	1
	Gov't Dock	2	-	2	-
	Pump House	2	-	2	-
Washington Mills	Intake	1	-	1	-
	Final Effluent	2	1	2	1
Washington Mills Electro Minerals	Intake	1	-	1	-
	Queen Lagoon	2	1	2	1
Welland Chemical	Intake	1	-	1	-
	South Lagoon	1	1	1	1
	#1 Lagoon	1	1	1	1

Table 5 - Summary of the Parameter/Frequency Assignment Rules

I ALL SITES

A) PROCESS EFFLUENTS COMBINED EFFLUENTS BATCH DISCHARGES

DAILY	pH, Specific Conductance (both continuous preferred), TSS
WEEKLY	Oil & Grease, DOC, TOC (if TSS >15 mg/L)

B) FINAL DISCHARGES* (Process effluents, Combined effluents or Batch discharges)

DAILY	pH, Specific Conductance, continuous monitoring, TSS
WEEKLY	Phosphorus
MONTHLY	Toxicity - Rainbow Trout (LC50 96 h) - If no more than 2 fish die for each of the first 3 tests pass/fail tests are allowed for remaining 9 months. If more than 2 fish die in any of these remaining tests, must revert back to full LC50 test. Daphnia magna (LC50 48 h)

II SITE SPECIFIC

A) PROCESS EFFLUENTS/COMBINED EFFLUENTS/BATCH DISCHARGES

DAILY	Nitrogen group (nitrogen fertilizer facilities) Phosphorus (phosphate fertilizer facilities and producers of phosphorus related products) Mercury (chlor-alkali facilities) Fluorides (phosphate fertilizer facilities)
THRICE WEEKLY	DOC (required for 1 facility in the sector which produces organic chemicals) Total NH_3 >10 mg/L, Phenolics (4AAP) >10 µg/L, Cl >250 mg/L, SO_4 >500 mg/L (NO_3^- + NO_2^-) >10 mg/L Fluorides (facilities processing fluorspar and hydrofluoric acid) Selected Priority Pollutants from the Inorganic Chemical Sector List > Long Term Medians (LTM) (Table 6)
WEEKLY	Phosphorus >MDL, Phenolics > MDL, DOC Inorganic Chemical Sector Priority Pollutants List > Method Detection Limits (MDL)< LTM
MONTHLY	Analytical Test Group 20 (if Phenolics >10 µg/L) Complete Analytical Test Group (if one group member > MDL) Selected Priority Pollutants from the Inorganic Chemical Sector List based on use/release, historical/generic data

QUARTERLY/ SEMI-ANNUALLY	All Conventional Pollutants (See Table 2) Inorganic Chemical Sector Priority Pollutant List (See Table 2) Open Characterization - Organic/Elemental

B) <u>OTCW/STORM WATER/WASTE DISPOSAL SITE EFFLUENTS</u>

MONTHLY OR AT DISCHARGE	DOC, pH, Specific Conductance, TSS, Phosphorus, Oil & Grease Selected other Conventional/Priority Pollutants (from Sector List) based on source chemicals	
QUARTERLY (OTCW)	Toxicity - Rainbow Trout (LC50 96 h) - *Daphnia magna* (LC50 48 h)	If no more than 2 fish die for first test, pass/fail tests are allowed for remaining 3 tests

C) <u>EMERGENCY OVERFLOWS</u>

AT DISCHARGE	DOC, pH, Specific Conductance, TSS, Phosphorus, Oil & Grease Selected other Conventional/Priority Pollutants (from Sector List) based on source chemicals

NOTE: 1. Monitoring frequencies of combined effluent streams are less stringent if all contributing process streams were monitored at the required frequencies.

2 Where a parameter is presently being monitored at a frequency greater than that required by this Regulation, that frequency was maintained.

3. Consideration was given to parameters when found in the intake water at the same levels as in the effluent when best professional judgement indicated that the parameters were not produced at the site.

4. Best professional judgement was used for inclusion of raw materials and products in monitoring schedules based on high levels of use, even if none were found in the effluents above the method detection limits.

TABLE 6 - U.S. EPA BATEA PERFORMANCE DATA (OPTION 1)

POLLUTANT OR POLLUTANT PROPERTY BY PRIORITY POLLUTANT CLASSES	MEDIAN OF LONGTERM WEIGHTED MEANS (PPB)
Halogenated Methanes (C1)	
Carbon tetrachloride	10
Chloroform	10
Methylene chloride	11.1
Bromoform	10
Chlorinated C2's	
1,2-Dichloroethane	10.3
Hexachloroethane	10
Chloroethane	50
1,2-trans-Dichloroethylene	77.5
Tetrachloroethylene	118.9
Vinyl chloride	10
Chlorinated C4's	
Hexachlorobutadiene	10
Chloroalkyl Ethers	
bis(2-chloroisopropyl)ether	1463
Metals	
Antimony	65
Arsenic	17
Chromium	86.7
Copper	21.3
Lead	329
Mercury	0.2
Nickel	145
Selenium	12
Zinc	52.5
Miscellaneous	
Acrylonitrile	50
Cyanide	64.9
Aromatics	
Benzene	27.1
Ethylbenzene	10
Toluene	10
Chlorophenols	
2,4,6-Trichlorophenol	65.9
2-Chlorophenol	10
2,4-Dichlorophenol	16.9
Pentachlorophenol	50

POLLUTANT OR POLLUTANT PROPERTY BY PRIORITY POLLUTANT CLASSES	MEDIAN OF LONGTERM WEIGHTED MEANS (PPB)
Polyaromatics	
Acenaphthene	10
Fluoranthene	13.2
Naphthalene	10
Benzo(a)anthracene	10
Benzo(a)pyrene	10
3,4-Benzofluoranthene	10
Chrysene	10
Acenaphthylene	10
Anthracene	10
Fluorene	10
Phenanthrene	10
Pyrene	12.5
Chloroaromatics	
Chlorobenzene	23.1
1,2,4-Trichlorobenzene	42.8
Hexachlorobenzene	10
o-Dichlorobenzene	23.9
m-Dichlorobenzene	21.3
p-Dichlorobenzene	10
Phthalate Esters	
bis(2-Ethylhexyl)phthalate	19.6
Di-n-butyl phthalate	22.2
Diethyl phthalate	44.4
Dimethyl phthalate	10
Nitroaromatics	
2,4-Dinitrotoluene	952
2,6-Dinitrotoluene	327
Nitrobenzene	351
Benzidines	
3,3-Dichlorobenzidine	262
Phenols	
2,4-Dimethylphenol	10
Phenol	10
Nitrophenols	
2-Nitrophenol	40.7
4-Nitrophenol	50
2,4-Dinitrophenol	102

TABLE 7 - INORGANIC CHEMICALS SECTOR PLANT GROUPINGS FOR CHARACTERIZATION

GROUP	CHARACTERISTICS	PLANT SITES
A	- simple process	Albright & Wilson Americas
	- single product	Cabot Canada Ltd
	- continuous process	Cyanamid Canada Inc - Niagara Plant
	- no chlorinated materials	Explosives Technologies International
		Exolon - ESK Company of Canada Ltd
		Fiberglas Canada Inc
		General Chemical Canada Inc
		IMC Co Ltd
		Norton Canada Inc
		Partek Insulation Ltd
		Sulco Chemicals Ltd
		Union Carbide Canada Ltd
		Washington Mills Ltd
		Washington Mills Electro Minerals Corporation
		Welland Chemical Ltd
		Stanchem
B	- moderate to complex process	Allied Chemicals Canada Inc
	- multi-product sites	CIL Inc - Cornwall
	- continuous and batch processes	CIL Inc - Courtright
	- chlorinated materials	Cyanamid Canada Inc - Welland Plant
	- site in concern area	Nitrochem Inc
	- history of environmental problems	

NOTE 1: The characterization requirements for Group A plant sites may be increased to Group B levels in cases where less than four days of pre-regulation monitoring data was provided to the Ministry by the sites.

NOTE 2: One site, Columbian Chemicals Canada Ltd. is not required to conduct characterizations since its effluent discharge is classified as Storm Water

TABLE 8 - PROBABILITY OF DETECTING AT LEAST ONE SAMPLE ABOVE THE DETECTION LIMIT

SINGLE SAMPLE PROBABILITY OF		NUMBER OF SAMPLES								RATIO OF DETECT/ (DETECT + NON-DETECT) (D/D+ND)
DETECT (P)	NON-DETECT (Q)	12	11	10	9	8	6	4	2	
0.5	0.5	0.999	0.999	0.999	0.998	0.996	0.984	0.937	0.750	1/2
0.4	0.6	0.998	0.996	0.994	0.990	0.983	0.953	0.870	0.640	2/5
0.3	0.7	0.986	0.980	0.972	0.960	0.942	0.882	0.759	0.510	3/10
0.2	0.8	0.931	0.914	0.893	0.866	0.832	0.738	0.590	0.360	1/5
0.1	0.9	0.717	0.686	0.651	0.613	0.569	0.468	0.344	0.190	1/10
0.05	0.95	0.460	0.431	0.401	0.370	0.337	0.265	0.185	0.098	1/20
0.02	0.98	0.215	0.199	0.183	0.166	0.149	0.114	0.078	0.040	1/50
0.01	0.99	0.113	0.105	0.095	0.086	0.077	0.058	0.039	0.019	1/100

The table shows the probability of a sample with a parameter above MDL for the number of samples tested.

PART C

THE EFFLUENT MONITORING REGULATION

FOR THE

INORGANIC CHEMICAL SECTOR

ONTARIO REGULATION 395/89

REGULATION MADE UNDER THE ENVIRONMENTAL PROTECTION ACT

ONTARIO REGULATION 395/89

EFFLUENT MONITORING - INORGANIC CHEMICAL SECTOR

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REGULATION MADE UNDER THE
ENVIRONMENTAL PROTECTION ACT

EFFLUENT MONITORING - INORGANIC CHEMICAL SECTOR

Definitions

1.-(1) In this Regulation,

"bi-monthly period" means a period of two months beginning on the first day of January, March, May, July, September or November;

"bi-monthly" means once in each two month period beginning on the first day January, March, May, July, September and November;

"characterization" means the analysis of a sample to identify and quantify all of the parameters in Schedule AA;

"combined effluent " means effluent resulting from any intentional combination of process effluent or process materials with cooling water;

"final discharge sampling point" means a location in a process effluent, combined effluent or batch discharge effluent stream situated,

(a) before the place of discharge to a surface watercourse, and

(b) downstream of all additions of effluent to that stream;

"General Effluent Monitoring Regulation" means Ontario Regulation 695/88;

"process change" means any change in equipment, production process or treatment process;

"quarterly" means once in each three month period beginning on the first day of January, April, July and October;

"semi-annual period" means a period of six months beginning on the first day of January or July;

"semi-annually" means once in each six month period beginning on the first day of January and July in each year;

(2) The definitions in section 1 of the General Effluent Monitoring Regulation that are not redefined in this Regulation apply to this Regulation.

Purpose

2. The purpose of this Regulation is to establish a data base on effluent quality in the inorganic chemical sector that, along with other pertinent information, will be used to develop effluent limits for that sector and to quantify the mass loadings of monitored contaminants being discharged by that sector into surface watercourses.

Application

3.-(1) This Regulation applies only with respect to the plants listed in subsection (2) and only with respect to effluent streams named in the site-specific monitoring schedules for those plants.

(2) The site-specific monitoring schedule for each plant is as set out in the following Table:

TABLE

ITEM	PLANT	LOCATION	OWNER AS OF MAY 19, 1989	SITE-SPECIFIC MONITORING SCHEDULE
1.	Amherstburg Plant	Amherstburg	Allied Chemicals Canada Inc.	A
2.	Amherstburg Plant	Amherstburg	General Chemical Canada Ltd.	B
3.	Chippawa Plant	Niagara Falls	Norton Canada Inc.	C
4.	Cornwall Works	Cornwall	C-I-L Inc.	D
5.	Cornwall Works	Cornwall	Stanchem, a Division of C-I-L Inc.	E
6.	Elmira Plant	Elmira	Sulco Chemicals Limited	F
7.	Hamilton Plant	Hamilton	Columbian Chemicals Canada Ltd.	G
8.	Lambton Works	Courtright	C-I-L Inc.	H
9.	Maitland Plant	Maitland	Nitrochem Inc.	I
10.	Niagara Plant	Niagara Falls	Cyanamid Canada Inc.	J
11.	Niagara Falls Plant	Niagara Falls	Washington Mills Electro Minerals Corporation	K
12.	Niagara Falls Plant	Niagara Falls	Washington Mills Limited	L
13.	Nipissing Site	North Bay	ETI Explosives Technologies International (Canada) Ltd.	M
14.	Port Maitland Plant	Port Maitland	Albright & Wilson Americas Inc.	N
15.	Port Maitland Plant	Port Maitland	International Minerals and Chemical Corporation (Canada) Limited	O
16.	Sarnia Plant	Sarnia	Cabot Canada Ltd.	P
17.	Sarnia Plant	Sarnia	Fiberglas Canada Inc.	Q
18.	Sarnia Plant	Sarnia	Partek Insulations Ltd.	R
19.	Sarnia Works	Sarnia	Welland Chemical Ltd.	S
20.	Thorold Plant	Thorold	The Exolon-ESK Company of Canada Ltd.	T
21.	Welland Plant	Niagara Falls	Cyanamid Canada Inc.	U
22.	Welland Plant	Welland	Union Carbide Canada Limited	V

(3) This Regulation is a Sectoral Effluent Monitoring Regulation within the meaning of the General Effluent Monitoring Regulation.

(4) Each direct discharger shall carry out the monitoring obligations, including the sampling, analysis, toxicity testing, flow measurement, recording and reporting obligations of this Regulation, in accordance with the General Effluent Monitoring Regulation and in accordance with the sampling principles specified in Schedule BB to this Regulation and the analytical principles specified in Schedule CC to this Regulation.

(5) Each direct discharger shall carry out the monitoring obligations of this Regulation using the analytical method detection limits specified in column 6 of Schedule 3 to the General Effluent Monitoring Regulation and in Column 6 of Schedule CC to this Regulation.

(6) Each direct discharger shall carry out the sampling and analytical obligations in relation to boron, strontium, biphenyl and diphenyl ether in accordance with Notes A to D to Schedule AA.

(7) An obligation on a direct discharger to do a thing under this Regulation is discharged if another person has done it on the direct discharger's behalf.

(8) Sections 4 to 16 of this Regulation cease to apply in respect of a sampling point of a direct discharger where an approval is granted under subsection 24(1) of the Ontario Water Resources Act,

(a) to route the effluent stream on which the sampling point is established to a sewage works; or

(b) to eliminate the effluent stream on which the sampling point is established.

Sampling Points

4.-(1) Each direct discharger shall, by the 1st day of September, 1989, establish a sampling point on each effluent stream named in the site-specific monitoring schedule for that discharger's plant as follows:

1. A batch discharge sampling point on each batch discharge effluent stream.

2. A combined effluent sampling point on each combined effluent stream.

3. A final discharge sampling point on each process effluent, combined effluent or batch discharge effluent stream.

4. A once-through cooling water sampling point on each once-through cooling water effluent stream.

5. A process effluent sampling point on each process effluent stream.

6. A storm water sampling point on each storm water effluent stream.

7. A waste disposal site effluent sampling point on each waste disposal site effluent stream.

8. An emergency overflow effluent sampling point on each emergency overflow effluent stream.

(2) Each direct discharger shall use the sampling points established under subsection (1) for all sampling required by this Regulation, except that a direct discharger may use alternate sampling points where that is acceptable to the Director.

(3) Where there is continuity of flow among a process effluent, combined effluent or batch discharge effluent stream of a direct discharger, that direct discharger shall collect all samples required by sections 5, 7, 8 and 9 in respect of those particular streams on the same day, to the extent that the coincidence or overlap of frequency requirements specified in the site-specific monitoring schedule for that discharger's plant permits.

(4) Except as otherwise specifically provided, sets of samples required to be collected under this Regulation need not be collected on the same day.

(5) Each direct discharger shall collect each sample required to be collected from a process or combined effluent sampling point as a composite sample throughout an operating day in accordance with subsection 3(4) of the General Effluent Monitoring Regulation.

(6) Each direct discharger shall submit for analysis the sample volume for each analytical test group that is required by the laboratory to meet the analytical method detection limits

specified in Column 6 in Parts A and B of Schedule 3 of the General Effluent Monitoring Regulation.

(7) Each direct discharger carrying out the requirements of subsection (6) need not comply with subsection 3(23) of the General Effluent Monitoring Regulation.

Characterization

5.-(1) Each direct discharger shall collect a set of samples sufficient to perform all of the characterization and open characterization required by subsections (4), (6) and (7) from each process effluent, combined effluent and batch discharge effluent sampling point of that discharger,

(a) at the characterization sampling frequencies and minimum intervals specified in the site-specific monitoring schedule for that discharger's plant; and

(b) once within thirty days after every process change that is expected to significantly and adversely affect the quality of effluent at that sampling point.

(2) For the purpose of subsection 4(3) of the General Effluent Monitoring Regulation, samples collected under subsection (1) are collected for characterization.

(3) Clause (1)(b) does not apply to experimental process changes of less than thirty days in duration.

(4) Each direct discharger shall analyze each set of samples collected under clauses (1)(a) and 1(b) for all of the parameters in Column 2 of Schedule AA.

(5) Each direct discharger shall collect all samples required by clause 1(a) on the same day, except to the extent that this is impossible because of a lack of coincidence or overlap of frequency requirements specified in the site-specific monitoring schedule for that discharger's plant for characterization sampling for analytical test group 24, with frequency requirements specified in that schedule for characterization sampling for all other analytical test groups.

(6) Despite subsection (4), where the characterization sampling frequencies specified in the site-specific monitoring schedule for a direct discharger's plant require characterization sampling for all analytical test groups other than analytical

test group 24 on a day on which characterization sampling for analytical test group 24 is not required by that schedule, the samples collected under clause 1(a) on that day need not be analyzed for analytical test group 24.

(7) Each direct discharger shall perform an open characterization on each set of samples collected under clause (1)(a).

(8) A direct discharger is only required to fulfill the requirements of clause 1(a) throughout four consecutive quarters.

Daily Monitoring

6.-(1) Subject to subsection (2), at each final discharge sampling point, each direct discharger shall,

(a) continuously sample and analyze, using an on-line analyzer, for the parameters in analytical test groups 3 and 7 in Schedule AA; or

(b) during each operating day, collect a set of samples and analyze those samples for the parameters specified in clause (1)(a).

(2) If a direct discharger is unable to carry out the requirements of subsection (1) at a final discharge sampling point, that discharger shall instead carry out those requirements at each sampling point on each effluent stream that flows into the stream on which the final discharge sampling point is located, and shall analyze those samples for the parameters specified in clause (1)(a).

(3) During each operating day, each direct discharger shall collect a set of samples from each process effluent, combined effluent and batch discharge effluent sampling point of that discharger, and shall analyze each such set for the parameters indicated in the daily column, for the stream from which the set was collected, of the site-specific monitoring schedule for that discharger's plant.

(4) When on an operating day a set of samples is collected under subsection (3) from a sampling point in respect of which a collection or analysis was performed on the same day under subsections (1) or (2), the direct discharger need not analyze the set of samples for parameters for which an analysis was performed under subsections (1) or (2).

(5) Clause (1)(b) and subsections (2) and (3) do not apply in respect of any day on which a sufficient volume of sample cannot be collected because of the collection of inspection samples.

Thrice Weekly Monitoring

7.-(1) On at least three operating days in each week, each direct discharger shall collect a set of samples from each process effluent, combined effluent and batch discharge effluent sampling point of that discharger and shall analyze each such set for the parameters indicated in the thrice-weekly column, for the stream from which the set was collected, of the site-specific monitoring schedule for that discharger's plant.

Weekly Monitoring

8.-(1) On at least one day in each week, each direct discharger shall collect a set of samples from each process effluent, combined effluent and batch discharge effluent sampling point of that discharger and shall analyze each such set for the parameters indicated in the weekly column, for the stream from which the set was collected, of the site-specific monitoring schedule for that discharger's plant.

(2) Each set of samples collected under subsection (1) shall be collected on one of the days on which a sample is collected under section 7 from the same sampling point.

(3) For the purposes of subsection (1), a set of samples collected from a sampling point after the first set of samples is collected from that sampling point under subsection (1) shall be collected no sooner than two days after the previous collection of a set of samples from that sampling point.

Monthly Monitoring

9.-(1) On at least one day in each month, each direct discharger shall collect a set of samples from each process effluent, combined effluent and batch discharge effluent sampling point of that discharger and shall analyze each such set for the parameters indicated in the monthly column, for the stream from which the set was collected, of the site-specific monitoring schedule for that discharger's plant.

(2) Each set of samples collected under subsection (1) shall be collected on one of the days on which a sample is collected

under section 8 from the same sampling point.

(3) For the purposes of subsection (1), a set of samples collected from a sampling point after the first set of samples is collected from that sampling point under subsection (1) shall be collected no sooner than two weeks after the previous collection of a set of samples from that sampling point.

Monthly Monitoring - Once-through Cooling Water

10.-(1) On at least one day in each month, on a day on which a set of samples required by subsection 9(1) is collected, each direct discharger shall collect a set of samples from each once-through cooling water sampling point of that discharger and shall analyze each such set for the parameters indicated in the column, for the stream from which the set was collected, of the site-specific monitoring schedule for that discharger's plant.

(2) For the purpose of subsection (1), a set of samples collected from a sampling point after the first set of samples is collected from that sampling point under subsection (1) shall be collected no sooner than two weeks after the previous collection of a set of samples from that sampling point.

Monthly Monitoring - Storm Water

11.-(1) On at least one operating day in each month in which there is a storm event or thaw on an operating day, each direct discharger shall collect a set of samples from each affected storm water sampling point of that discharger during a discharge of storm water related to the storm event and shall analyze each such set for the parameters indicated in the column, for the stream from which the set was collected, of the site-specific monitoring schedule for that discharger's plant.

(2) Where a direct discharger has been unable to collect a set of samples from a storm water sampling point of that discharger during any month in which there was a storm event or thaw because of insufficient flow, that discharger shall collect a compensating set of samples from that sampling point during a subsequent discharge of storm water in respect of which a set of samples is not collected under subsection (1), and shall analyze each such set for the parameters indicated in the column, for the stream from which the set was collected, of the site-specific monitoring schedule for that discharger's plant.

(3) Each direct discharger shall make every reasonable effort to ensure that samples collected under subsection (1) in at least two of the months of January, February, March, April and May are collected during a thaw with collection during the second thaw to occur no sooner than two weeks after collection during the first thaw.

Monthly Monitoring - Waste Disposal Site Effluent

12.-(1) On one day in each month during which there is a discharge of waste disposal site effluent, each direct discharger shall collect a set of samples from each waste disposal site effluent sampling point of that discharger during a discharge of waste disposal site effluent and shall analyze each such set for the parameters indicated in the column, for the stream from which the set was collected, of the site-specific monitoring schedule for that discharger's plant.

Event Monitoring - Emergency Overflow

13.-(1) During each emergency overflow, each direct discharger shall collect a set of samples from each affected emergency overflow effluent sampling point of that discharger and shall analyze each such set for the parameters indicated in the column, for the stream from which the set was collected, of the site-specific monitoring schedule for that discharger's plant.

(2) Subsection (1) does not apply if the collection of samples would result in danger to health or safety.

Quality Control Monitoring

14.-(1) Each direct discharger shall prepare each travelling spiked blank sample required to be analyzed by this section with a standard solution containing at least the parameters to be analyzed for, and shall record the concentration of each such parameter.

(2) For the purposes of subsections (3) and (4), where a direct discharger collects a composite sample using an automatic composite sampling device, the discharger may, instead of collecting a duplicate sample, remove an aliquot from each sample container used to collect the sample, in which case the direct discharger shall analyze the aliquots as if they were duplicate samples.

(3) Once in each month, on a day on which samples are collected under section 9, each direct discharger shall collect duplicate sample for each sample required to be collected on tha day by sections 6 and 7 from the stream indicated as requiring quality control monitoring in the site-specific monitoring schedule for that discharger's plant and shall analyze the set o duplicate samples for the parameters indicated in the daily and thrice-weekly columns, for the stream from which the set was collected, of that site-specific monitoring schedule.

(4) Once in each quarter, on a day on which duplicate samples are collected under subsection (3), each direct discharger shall collect a duplicate sample for each sample required to be collected on that day by sections 8 and 9 from th stream indicated as requiring quality control monitoring in the site-specific monitoring schedule for that discharger's plant, and shall analyze the set of duplicate samples for the parameter indicated in the weekly and monthly columns, for the stream from which the set was collected, of that site-specific monitoring schedule.

(5) Once in each month, on a day on which samples are collected under subsection (3), each direct discharger shall prepare, process and return to the laboratory a travelling blank sample for each sample required to be collected on that day by sections 6 and 7 from the stream indicated as requiring quality control monitoring in the site-specific monitoring schedule for that discharger's plant, and shall analyze the set of travelling blank samples for the parameters indicated in the daily and thrice-weekly columns, for the stream from which the set was collected, of that site-specific monitoring schedule.

(6) Despite subsection (5), a direct discharger need not analyze a travelling blank sample for parameters in analytical test groups 3 and 8.

(7) Once in each quarter, on a day on which duplicate samples are collected under subsection (4), each direct discharger shall prepare, process and return to the laboratory a travelling blank sample for each sample required to be collected on that day by sections 8 and 9 from the stream indicated as requiring quality control monitoring in the site-specific monitoring schedule for that discharger's plant, and shall analyze the set of travelling blank samples for the parameters indicated in the weekly and monthly columns, for the stream from which the set was collected, of that site-specific monitoring schedule.

(8) Once in each month, on a day on which samples are collected under subsection (3), each direct discharger shall

prepare, process and return to the laboratory a travelling spiked blank sample for each sample required to be collected on that day by sections 6 and 7 from the stream indicated as requiring quality control monitoring in the site-specific monitoring schedule for that discharger's plant, and shall analyze the set of travelling spiked blank samples for the parameters in analytical test groups 16 to 20, 23, 24 and 27 indicated in the daily and thrice weekly columns, for the stream from which the set was collected, of that site-specific monitoring schedule.

(9) Once in each quarter, on a day on which duplicate samples are collected under subsection (4), each direct discharger shall prepare, process and return to the laboratory a travelling spiked blank sample for each sample required to be collected on that day by sections 8 and 9 from the stream indicated as requiring quality control monitoring in the site-specific monitoring schedule for that discharger's plant, and shall analyze the set of travelling spiked blank samples for the parameters in analytical test groups 16 to 20, 23, 24 and 27 indicated in the weekly and monthly columns, for the stream from which the set was collected, of that site-specific monitoring schedule.

(10) A direct discharger is only required to fulfil the requirements of subsections (8) and (9) if any of analytical test groups 16 to 20, 23, 24 and 27 are indicated in any daily, thrice weekly, weekly or monthly column of the site-specific monitoring schedule for that discharger's plant.

Toxicity Testing

15.-(1) Each direct discharger shall collect a sample from each final discharge sampling point of that discharger once in each month on the same day as the set of samples is collected under section 9 from that sampling point and shall perform thereon a fish toxicity test.

(2) If the tests performed under subsection (1) on all samples from a final discharge sampling point in three consecutive months result in mortality for no more than two out of ten fish at all effluent concentrations, a direct discharger may thereafter perform the tests required by subsection (1), on the samples from that sampling point, on 100 per cent undiluted samples only.

(3) If a test performed under subsection (2) on any sample from a final discharge sampling point results in mortality for more than two out of ten fish, subsection (2) ceases to apply and continues not to apply in respect of samples from that sampling

point, until the tests performed under subsection (1) on all samples from that sampling point in a further three consecutive months result in mortality for no more than two out of ten fish at all effluent concentrations.

(4) Each direct discharger shall collect a sample from each final discharge sampling point of that discharger once in each month, on the same day as the sample is collected under subsection (1) from that sampling point and shall perform thereon a Daphnia magna acute lethality toxicity test.

(5) Each direct discharger shall collect each sample required by subsection (4) together in the same container or set of containers with the sample collected under subsection (1) from the same sampling point.

(6) Each direct discharger shall collect a sample from each once-through cooling water sampling point of that discharger once in each quarter on the same day as one of the sets of samples required by section 10 is collected from that sampling point and shall perform, on each sample required by this subsection,

(a) a fish toxicity test; and

(b) a Daphnia magna acute lethality toxicity test.

(7) If the test performed in the first quarter under subsection (6) on all samples from a once-through cooling water sampling point result in mortality for no more than two out of ten test species for both tests at all effluent concentrations, a direct discharger may thereafter perform the tests required by subsection (6) on the samples from that sampling point, on 100 per cent undiluted samples only.

(8) If a test performed under subsection (7) on any sample from a once-through cooling water sampling point results in mortality for more than two out of ten test species, subsection (7) ceases to apply in respect of samples from that sampling point.

(9) A direct discharger is only required to fulfil the requirements of subsection (6) throughout four consecutive quarters.

Flow Measurement

16.-(1) Subject to subsection (2), each direct discharger shall continuously measure the flow of each process effluent and combined effluent stream of that discharger at a location or set

of locations representative of the flow at the sampling point established for that stream and shall continuously record the measured flow.

(2) Where there is no continuous flow measurement in place on a combined effluent stream, each direct discharger shall estimate, on each operating day, the total daily flow of the stream and shall record the estimated flow.

(3) Where the flow of a process effluent or combined effluent stream cannot be continuously measured on any operating day because of equipment malfunction and all reasonable care has been taken to avoid and correct the malfunction, the direct discharger may fulfil the requirement of subsection (1) by estimating the total volume of effluent discharged on that day from that stream and recording that estimate.

(4) Each direct discharger shall, at the time of each sampling under this Regulation from a batch discharge or once-through cooling water effluent stream of that discharger, measure or estimate the flow of that stream at a location or set of locations representative of the flow at the sampling point established for that stream and shall record the measured or estimated data.

(5) Each direct discharger shall measure or estimate the duration and approximate volume of every storm water discharge, waste disposal site effluent discharge and emergency overflow in respect of which the discharger has taken a sample under this Regulation and shall record the measured or estimated data.

(6) Subsection 6(6) of the General Effluent Monitoring Regulation does not apply in respect of measurements or estimates of volume of discharges of storm water.

(7) Subject to subsection (8), each direct discharger shall demonstrate by calibration, performed no earlier than 365 days before the filing of this Regulation and no later than thirty days before the first use of the device for the purposes of this Regulation, that each primary flow measuring device used to measure the flow of any process effluent stream for the purposes of this Regulation, meets the accuracy requirement of subsection 6(1) of the General Effluent Monitoring Regulation.

(8) Where a direct discharger demonstrates to the Director by means of a certified report of a registered professional engineer of the Province of Ontario that a primary flow measuring device has been designed and installed in accordance with the standards of a national or international standards setting organization, that primary device will be deemed capable of

meeting the accuracy requirement of subsection 6(1) of the General Effluent Monitoring Regulation.

(9) Subject to subsection (10), each direct discharger shall demonstrate by calibration, performed no earlier than 365 days before the filing of this Regulation and no later than thirty days before the first use of the device for the purposes of this Regulation, that each flow measuring device used to measure the flow of any combined effluent stream for the purposes of this Regulation, meets the accuracy requirement of subsection 6(3) of the General Effluent Monitoring Regulation.

(10) Where a direct discharger demonstrates to the Director by means of a certified report of a registered professional engineer of the Province of Ontario that a flow measuring device has been designed and installed in accordance with the standards of a national or international standards setting organization, that flow measuring device will be deemed capable of meeting the accuracy requirement of subsection 6(3) of the General Effluent Monitoring Regulation.

Reporting

17.-(1) Each direct discharger shall, by the 8th day of September, 1989, submit an initial report to the Director in respect of that discharger's plant.

(2) Each direct discharger shall ensure that the plans submitted under paragraph 1 of subsection 7(1) of the General Effluent Monitoring Regulation identify by type each effluent stream named in the site-specific monitoring schedule for that discharger's plant.

(3) Each direct discharger shall report in writing any changes in respect of the information submitted under subsection (1) to the Director within thirty days after the end of the month during which the change occurs.

(4) Each direct discharger shall notify the Director in writing of any change of name or ownership of its plant occurring after the 19th day of May, 1989, within thirty days after this Regulation comes into force or within thirty days after any such change.

(5) Each direct discharger shall, no later than thirty days after the event, notify the Director in writing of any process change that occurs after the day this Regulation comes into force and that may adversely affect the quality of the effluent in any effluent stream named in the site-specific monitoring schedule

for that discharger's plant.

(6) Each direct discharger shall, no later than thirty days before the event or thirty days after this Regulation comes into force, notify the Director in writing of any redirection of or change in the type of an effluent stream named in the site-specific monitoring schedule for that discharger's plant that occurs after the day this Regulation comes into force.

(7) For the purposes of subsections (2) and (6), effluent stream types are the types mentioned in subsection 4(1).

(8) Despite subsection (6), a direct discharger need not notify the Director of any redirection of an effluent stream to an emergency overflow effluent stream.

(9) With respect to each sample, each direct discharger shall report to the Director the results of all analyses performed by or on behalf of the direct discharger under sections 5 to 14 of this Regulation, and under subsection 4(18) of the General Effluent Monitoring Regulation, including the data recorded under subsection 14(1) and all positive numerical values at or above the analytical method detection limits calculated by the laboratory performing the analysis, together with the date on which each sample was collected and the method used to collect each sample.

(10) Each direct discharger shall, in accordance with subsection 7(6) of the General Effluent Monitoring Regulation, report to the Director the toxicity test information obtained under section 15, together with the date on which each sample was collected under section 15.

(11) The information required to be reported under subsection (4) constitutes results of analyses within the meaning of subsection 7(2) of the General Effluent Monitoring Regulation.

(12) Each direct discharger shall, with respect to each flow measuring device used in meeting the requirements of this Regulation, submit to the Director documentation of any calibration or certification of accuracy required by subsections 16(7) to (10) of this Regulation and subsections 6(1) and (2) of the General Regulation, no later than thirty days before the first use of the device for the purposes of this Regulation.

(13) Each direct discharger shall, with respect to each method, device or calculation for flow measurement or estimation to be used in meeting the requirements of this Regulation, other than methods, devices or calculations to be used to measure or estimate the volume of discharges of storm water, submit to the

Director, no later than thirty days before the first use of the method, device or calculation for the purposes of this Regulation, documentation sufficient to satisfy the Director that the method, device or calculation complies with the accuracy requirements of subsections 6(3) and (6) of the General Effluent Monitoring Regulation.

(14) Each direct discharger shall, no later than the 1st day of November, 1989, submit to the Director a description of the methods, devices and calculations to be used in measuring or estimating the volume of discharges of storm water under subsection 16(5), together with an assessment of the accuracy of those methods, devices and calculations.

(15) Each direct discharger shall submit to the Director documentation of each calibration performed under subsection 6(7) of the General Effluent Monitoring Regulation, by the 1st day of November, 1989 or within thirty days after the day on which the calibration was performed.

(16) Each direct discharger shall report to the Director the flow measurement information recorded under subsections 16(1) to (4) in respect of each process effluent stream, combined effluent stream, batch discharge effluent stream and once-through cooling water effluent stream of that discharger and the date on which each flow was measured or estimated.

(17) Each direct discharger shall submit to the Director a description of any methods, devices and calculations used in estimating the volume of a discharge of effluent under subsection 16(3), together with an assessment of the accuracy of those methods, devices and calculations, within sixty days after each such estimation.

(18) Each direct discharger shall report to the Director the information required to be recorded under subsection 16(5), as well as the date and location of each discharge and overflow measured or estimated under subsection 16(5).

(19) Each direct discharger shall report in writing to the Director the date, approximate duration and amount of rainfall of each storm event that occurs while section 11 is in force, within sixty days after each such storm event.

(20) Each direct discharger shall submit to the Director, at least thirty days before the collection of the first sample in each month, a schedule of sampling dates and times by sampling point location for all sampling to be done under sections 5, 9 and 10.

(21) Each direct discharger shall make every reasonable effort to follow the schedule submitted by the direct discharger under subsection (20) but if the schedule cannot be followed as submitted, the direct discharger shall notify the Director promptly of any change in dates or times.

(22) Within thirty days after the end of each quarter, each direct discharger shall submit a report to the Director stating the quantities of chemicals added to each once-through cooling water effluent stream of that discharger in the quarter, and stating the dates on which these additions occurred.

(23) Each direct discharger shall, no later than the 31st day of December, 1990, submit a report to the Director describing the variation in daily flow for a period of six months for each process effluent stream from which samples are collected under this Regulation other than by means described in clauses 3(4)(a), (b) and (e) of the General Effluent Monitoring Regulation.

(24) The report referred to in subsection (23) shall include the raw data and calculation methods used to produce the report.

(25) Each direct discharger shall keep records of all sampling required by this Regulation, including, for each sample, the date and time of collection, the sampling procedures used, the amount of sample dilution by preservative if dilution exceeds 1 per cent, and any incident likely to affect an analytical result.

(26) Each direct discharger shall develop a maintenance schedule for all sampling equipment and shall record the dates on which any maintenance action was taken, together with a description of the action.

(27) Each direct discharger shall keep records of all analytical methods used in meeting the requirements of this Regulation.

(28) Each direct discharger shall submit a report to the Director detailing the date, duration and cause of each sampling, toxicity testing, analytical and flow measurement malfunction or other problem that interferes with fulfilling the requirements of this Regulation, together with a description of any remedial action taken, within sixty days after the day on which the malfunction or problem occurs.

(29) Each direct discharger shall keep all records and reports required by this Regulation to be kept or made for a period of two years following the date of the last report submitted to the Director under this section.

Commencement

18.-(1) This Regulation, except sections 5 to 15 and subsections 16(1) to (6), comes into force on the day on which it is filed.

(2) Sections 5 to 15 and subsections 16(1) to (6) come into force on the 1st day of December, 1989.

Revocation

19. Sections 5 and 7 to 15 are revoked on the 1st day of December, 1990.

SCHEDULE AA - MONITORING PARAMETERS - INORGANIC CHEMICAL SECTOR

	COLUMN 1	COLUMN 2	COLUMN 3
#	ANALYTICAL TEST GROUP NAME	PARAMETERS	CAS #s
1	Chemical Oxygen Demand	Chemical oxygen demand (COD)	N/A
2	Total cyanide	Total cyanide	57-12-5
3	Hydrogen ion (pH)	Hydrogen ion (pH)	N/A
4a	Nitrogen	Ammonia plus Ammonium	N/A
		Total Kjeldahl nitrogen	N/A
4b		Nitrate + Nitrite	N/A
5a	Organic carbon	Dissolved organic carbon (DOC)	N/A
5b		Total organic carbon (TOC) (NOTE 1)	N/A
6	Total phosphorus	Total phosphorus	7723-14-0
7	Specific conductance	Specific conductance	N/A
8	Suspended solids	Total suspended solids (TSS)	N/A
		Volatile suspended solids (VSS)	N/A
9	Total metals	Aluminum	7429-90-5
		Beryllium	7440-41-7
		Boron (NOTE A)	7440-42-8
		Cadmium	7440-43-9
		Chromium	7440-47-3
		Cobalt	7440-48-4
		Copper	7440-50-8
		Lead	7439-92-1
		Molybdenum	7439-98-7
		Nickel	7440-02-0

	COLUMN 1	COLUMN 2	COLUMN 3
ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s
9	Total metals (continued)	Silver	7440-22-4
		Strontium (NOTE B)	7440-24-6
		Thallium	7440-28-0
		Vanadium	7440-62-2
		Zinc	7440-66-6
10	Hydrides	Antimony	7440-36-0
		Arsenic	7440-38-2
		Selenium	7782-49-2
11	Chromium (Hexavalent)	Chromium (Hexavalent) (NOTE 2)	7440-47-3
12	Mercury	Mercury	7439-97-6
13	Total alkyl lead	This group does not apply to the Inorganic Chemical Manufacturing Sector	
14	Phenolics (4AAP)	Phenolics (4AAP)*	N/A
15	Sulphide	Sulphide	N/A
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	79-34-5
		1,1,2-Trichloroethane	79-00-5
		1,1-Dichloroethane	75-34-3
		1,1-Dichloroethylene	75-35-4
		1,2-Dichlorobenzene	95-50-1
		1,2-Dichloroethane (Ethylene dichloride)	107-06-2
		1,2-Dichloropropane	78-87-5
		1,3-Dichlorobenzene	541-73-1
		1,4-Dichlorobenzene	106-46-7
		Bromoform	75-25-2
		Bromomethane	74-83-9

	COLUMN 1	COLUMN 2	COLUMN 3
ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s
16	Volatiles, Halogenated (continued)	Carbon tetrachloride	56-23-5
		Chlorobenzene	108-90-7
		Chloroform	67-66-3
		Chloromethane	74-87-3
		Cis-1,3-Dichloropropylene	10061-01-5
		Dibromochloromethane	124-48-1
		Ethylene dibromide	106-93-4
		Methylene chloride	75-09-2
		Tetrachloroethylene (Perchloroethylene)	127-18-4
		Trans-1,2-Dichloroethylene	156-60-5
		Trans-1,3-Dichloropropylene	10061-02-6
		Trichloroethylene	79-01-6
		Trichlorofluoromethane	75-69-4
		Vinyl chloride (Chloroethylene)	75-01-4
17	Volatiles, Non-Halogenated	Benzene	71-43-2
		Styrene	100-42-5
		Toluene	108-88-3
		o-Xylene	95-47-6
		m-Xylene and p-Xylene	108-38-3 & 106-42-3
18	Volatiles, Water Soluble	Acrolein	107-02-8
		Acrylonitrile	107-13-1
19	Extractables, Base Neutral	Acenaphthene	83-32-9
		5-nitro Acenaphthene	602-87-9
		Acenaphthylene	208-96-8
		Anthracene	120-12-7
		Benz(a)anthracene	56-55-3
		Benzo(a)pyrene	50-32-8
		Benzo(b)fluoranthene	205-99-2

	COLUMN 1	COLUMN 2	COLUMN 3
ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s
19	Extractables, Base Neutral (continued)	Benzo(g,h,i)perylene	191-24-2
		Benzo(k)fluoranthene	207-08-9
		Biphenyl (NOTE C)	92-52-4
		Camphene	79-92-5
		1-Chloronaphthalene	90-13-1
		2-Chloronaphthalene	91-58-7
		Chrysene	218-01-9
		Dibenz(a,h)anthracene	53-70-3
		Fluoranthene	206-44-0
		Fluorene	86-73-7
		Indeno(1,2,3-cd)pyrene	193-39-5
		Indole	120-72-9
		1-Methylnaphthalene	90-12-0
		2-Methylnaphthalene	91-57-6
		Naphthalene	91-20-3
		Perylene	198-55-0
		Phenanthrene	85-01-8
		Pyrene	129-00-0
		Benzyl butyl phthalate	85-68-7
		Bis(2-ethylhexyl) phthalate	117-81-7
		Di-n-butyl phthalate	84-74-2
		4-Bromophenyl phenyl ether	101-55-3
		4-Chlorophenyl phenyl ether	7005-72-3
		Bis(2-chloroisopropyl)ether	108-60-1
		Bis(2-chloroethyl)ether	111-44-4
		Diphenyl ether (NOTE D)	10-184-8
		2,4-Dinitrotoluene	121-14-2
		2,6-Dinitrotoluene	606-20-2
		Bis(2-chloroethoxy)methane	111-91-1
		Diphenylamine	122-39-4
		N-Nitrosodiphenylamine	86-30-6
		N-Nitrosodi-n-propylamine	621-64-7

SCHEDULE AA - MONITORING PARAMETERS - INORGANIC CHEMICAL SECTOR

	COLUMN 1	COLUMN 2	COLUMN 3
ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s
20	Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	4901-51-3
		2,3,4,6-Tetrachlorophenol	58-90-2
		2,3,5,6-Tetrachlorophenol	935-95-5
		2,3,4-Trichlorophenol	15950-66-0
		2,3,5-Trichlorophenol	933-78-8
		2,4,5-Trichlorophenol	95-95-4
		2,4,6-Trichlorophenol	88-06-2
		2,4-Dimethyl phenol	105-67-9
		2,4-Dinitrophenol	51-28-5
		2,4-Dichlorophenol	120-83-2
		2,6-Dichlorophenol	87-65-0
		4,6-Dinitro-o-cresol	534-52-1
		2-Chlorophenol	95-57-8
		4-Chloro-3-methylphenol	59-50-7
		4-Nitrophenol	100-02-7
		m-Cresol	108-39-4
		o-Cresol	95-48-7
		p-Cresol	106-44-5
		Pentachlorophenol	87-86-5
		Phenol	108-95-2

	COLUMN 1	COLUMN 2	COLUMN 3
ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	634-66-2
		1,2,3,5-Tetrachlorobenzene	634-90-2
		1,2,4,5-Tetrachlorobenzene	95-94-3
		1,2,3-Trichlorobenzene	87-61-6
		1,2,4-Trichlorobenzene	120-82-1
		2,4,5-Trichlorotoluene	6639-30-1
		Hexachlorobenzene	118-74-1
		Hexachlorobutadiene	87-68-3
		Hexachlorocyclopentadiene	77-47-4
		Hexachloroethane	67-72-1
		Octachlorostyrene	29082-74-4
		Pentachlorobenzene	608-93-5
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6
		Octachlorodibenzo-p-dioxin	326-88-7
		Octachlorodibenzofuran	Unavailable
		Total heptachlorinated dibenzo-p-dioxins	Unavailable
		Total heptachlorinated dibenzofurans	Unavailable
		Total hexachlorinated dibenzo-p-dioxins	34465-46-8
		Total hexachlorinated dibenzofurans	Unavailable
		Total pentachlorinated dibenzo-p-dioxins	Unavailable
		Total pentachlorinated dibenzofurans	Unavailable
		Total tetrachlorinated dibenzo-p-dioxins	Unavailable
		Total tetrachlorinated dibenzofurans	Unavailable
25	Solvent Extractables	Oil and grease	
26a	Fatty Acids	This group does not apply to the Inorganic Chemical Manufacturing Sector	
26b	Resin Acids		

SCHEDULE AA - MONITORING PARAMETERS - INORGANIC CHEMICAL SECTOR

	COLUMN 1	COLUMN 2	COLUMN 3
ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s
27	PCBs (Total)	PCBs (Total)	Unavailable
IC1†	Chloride	Chloride	N/A
IC2†	Fluoride	Fluoride	N/A
IC3†	Sulphate	Sulphate	N/A

* 4AAP = 4-amino antipyrine method

† Analytical test group to be monitored in accordance with the Sampling Principles listed in Schedule BB and the Analytical Principles and Analytical Method Detection Limits listed in Schedule CC.

NOTE 1: Total organic carbon is to be analyzed only if the total suspended solids concentration exceeds 15 mg/L.
NOTE 2: Chromium (Hexavalent) is to be analyzed only if total chromium >1.0 mg/L.

NOTE A: Follow the Sampling & Analytical Principles outlined for Analytical Test Group 9 in Schedule 2 and in Part A of Schedule 3 in the General Effluent Monitoring Regulation with an Analytical Method Detection Limit of 0.05 mg/L.

NOTE B: Follow the Sampling & Analytical Principles outlined for Analytical Test Group 9 in Schedule 2 and in Part A of Schedule 3 in the General Effluent Monitoring Regulation with an Analytical Method Detection Limit of 0.02 mg/L.

NOTE C: Follow the Sampling & Analytical Principles outlined for Analytical Test Group 19 in Schedule 2 and in Part B of Schedule 3 in the General Effluent Monitoring Regulation with an Analytical Method Detection Limit of 0.6 µg/L.

NOTE D: Follow the Sampling & Analytical Principles outlined for Analytical Test Group 19 in Schedule 2 and in Part B of Schedule 3 in the General Effluent Monitoring Regulation with an Analytical Method Detection Limit of 0.4 µg/L.

SCHEDULE BB - SAMPLING PRINCIPLES

Column 1	Column 2	Column 3	Column 4	Col 5	Column 6	Column 7
ANALYTICAL TEST GROUP	LABORATORY SAMPLE CONTAINER	LABORATORY CONTAINER PRE-TREATMENT	TEST SPECIFIC SAMPLING PRECAUTIONS	MIN. SAM. VOL	PRESERVATION METHOD	MAX. STORAGE TIME (DAYS)
Chloride IC1	Sample containers and caps/ liners must be composed only of one or more of the following materials: fluorocarbon resin, polyethylene terephthalate, glass, polystyrene, polypropylene, high or low density polyethylene. Metallic foil should not be used.	Generally no pre-treatment required for new containers.	If sample is high (>5%) in hydrocarbons or organic solvents, use glass or fluorocarbon resin sample container only.	50 mL	None	28
Fluoride IC2	See Analytical Test Group IC1	See Analytical Test Group IC1	See Analytical Test Group IC1	50 mL	See Analytical Test Group IC1	28
Sulphate IC3	See Analytical Test Group IC1	See Analytical Test Group IC1	See Analytical Test Group IC1	50 mL	See Analytical Test Group IC1	28

SCHEDULE CC - ANALYTICAL PRINCIPLES & ANALYTICAL METHOD DETECTION LIMITS

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
ANALYTICAL TEST GROUP #	PARAMETERS CONVENTIONAL AND METAL PARAMETERS	SAMPLE PREPARATION METHOD PRINCIPLES	INSTRUMENTAL MEASUREMENT METHOD PRINCIPLES	ALTERNATE INSTRUMENTAL MEASUREMENT METHOD PRINCIPLES	ANALYTICAL METHOD DETECTION LIMITS
IC1	Chloride	Preparation for measurement system as appropriate	Ion Chromatography or Colourimetry or Titration	N/A	2.0 mg/L
IC2	Fluoride	See Analytical Test Group IC1	Colourimetry or Specific Ion Electrode	N/A	0.1 mg/L
IC3	Sulphate	See Analytical Test Group IC1	Ion Chromatography	N/A	5.0 mg/L as SO4

LEGEND FOR SCHEDULES A - V

NOTE 1: Total organic carbon is to be analyzed only if the total suspended solids concentration exceeds 15 milligrams/litre.

NOTE 2: Chromium (Hexavalent) is to be analyzed only if total chromium is greater than 1.0 milligram/litre.

ATG - Analytical Test Group

D - Daily

TW - Thrice weekly

W - Weekly

M - Monthly

OTCW - Once-through Cooling Water

† Analytical Test Group to be monitored in accordance with the Sampling Principles listed in Schedule BB and the Analytical Principles and Analytical Method Detection Limits listed in Schedule CC.

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE A: AMHERSTBURG PLANT (ALLIED CHEMICALS CANADA INC.)

		NAME OF EFFLUENT STREAM:	Genetron Effluent				Genetron East Storm Effluent	Mailloux Quarry Effluent	HF Bleed Effluent			
		EFFLUENT STREAM TYPE:	Process				Storm	Storm	Process			
		TOXICITY TEST REQUIRED:	No				No	No	No			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Quarterly 60 days				None	None	Quarterly 60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None	None	Semi-annually 180 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No	No	No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	M	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED										
2	Total cyanide	Total cyanide						XXX			XXX	
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX				XXX	XXX	XXX			
4a	Nitrogen	Ammonia plus Ammonium				XXX		XXX				
		Total Kjeldahl nitrogen				XXX		XXX				
4b		Nitrate + Nitrite				XXX		XXX				
5a	Organic carbon	Dissolved organic carbon (DOC)		XXX			XXX	XXX		XXX		
5b		Total organic carbon (TOC) (NOTE 1)		XXX			XXX	XXX		XXX		
6	Total phosphorus	Total phosphorus				XXX	XXX	XXX				XXX
7	Specific conductance	Specific conductance	XXX				XXX	XXX	XXX			
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX				XXX	XXX	XXX			
		Volatile suspended solids (VSS)										
9	Total metals	Aluminum				XXX	XXX	XXX				XXX
		Beryllium				XXX	XXX	XXX				XXX
		Boron				XXX	XXX	XXX				XXX
		Cadmium				XXX	XXX	XXX				XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE A: AMHERSTBURG PLANT (ALLIED CHEMICALS CANADA INC.)

		NAME OF EFFLUENT STREAM:	Genetron Effluent				Genetron East Storm Effluent	Mailloux Quarry Effluent	HF Bleed Effluent			
		EFFLUENT STREAM TYPE:	Process				Storm	Storm	Process			
		TOXICITY TEST REQUIRED:	No				No	No	No			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Quarterly 60 days				None	None	Quarterly 60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None	None	Semi-annually 180 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No	No	No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	M	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED										
9	Total metals (continued)	Chromium				XXX	XXX	XXX				XXX
		Cobalt				XXX	XXX	XXX				XXX
		Copper				XXX	XXX	XXX		XXX		
		Lead				XXX	XXX	XXX				XXX
		Molybdenum				XXX	XXX	XXX			XXX	
		Nickel				XXX	XXX	XXX				XXX
		Silver				XXX	XXX	XXX			XXX	
		Strontium				XXX	XXX	XXX				XXX
		Thallium				XXX	XXX	XXX				XXX
		Vanadium				XXX	XXX	XXX			XXX	
		Zinc			XXX		XXX	XXX		XXX		
10	Hydrides	Antimony		XXX			XXX				XXX	
		Arsenic		XXX			XXX			XXX		
		Selenium				XXX	XXX					XXX
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)				XXX	XXX	XXX				XXX
12	Mercury	Mercury			XXX			XXX		XXX		
14	Phenolics (4AAP)	Phenolics (4AAP)			XXX							
15	Sulphide	Sulphide				XXX	XXX	XXX				XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE A: AMHERSTBURG PLANT (ALLIED CHEMICALS CANADA INC.)

		NAME OF EFFLUENT STREAM:	Genetron Effluent				Genetron East Storm Effluent	Mailloux Quarry Effluent	HF Bleed Effluent			
		EFFLUENT STREAM TYPE:	Process				Storm	Storm	Process			
		TOXICITY TEST REQUIRED:	No				No	No	No			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Quarterly				None	None	Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	60 days						60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually				None	None	Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days						180 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No	No	No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	M	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED										
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane			XXX		XXX					
		1,1,2-Trichloroethane				XXX	XXX					
		1,1-Dichloroethane				XXX	XXX					
		1,1-Dichloroethylene				XXX	XXX					
		1,2-Dichlorobenzene				XXX	XXX					
		1,2-Dichloroethane (Ethylene dichloride)				XXX	XXX					
		1,2-Dichloropropane				XXX	XXX					
		1,3-Dichlorobenzene				XXX	XXX					
		1,4-Dichlorobenzene				XXX	XXX					
		Bromoform				XXX	XXX					
		Bromomethane				XXX	XXX					
		Carbon tetrachloride		XXX			XXX					
		Chlorobenzene				XXX	XXX					
		Chloroform		XXX			XXX					
		Chloromethane				XXX	XXX					
		Cis-1,3-Dichloropropylene				XXX	XXX					
		Dibromochloromethane				XXX	XXX					
		Ethylene dibromide				XXX	XXX					
		Methylene chloride		XXX			XXX					
		Tetrachloroethylene (Perchloroethylene)				XXX	XXX					
		Trans-1,2-Dichloroethylene				XXX	XXX					
		Trans-1,3-Dichloropropylene				XXX	XXX					

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE A: AMHERSTBURG PLANT (ALLIED CHEMICALS CANADA INC.)

		NAME OF EFFLUENT STREAM:	Genetron Effluent				Genetron East Storm Effluent	Mailloux Quarry Effluent	HF Bleed Effluent			
		EFFLUENT STREAM TYPE:	Process				Storm	Storm	Process			
		TOXICITY TEST REQUIRED:	No				No	No	No			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Quarterly 60 days				None	None	Quarterly 60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None	None	Semi-annually 180 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No	No	No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	M	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED										
16	Volatiles, Halogenated (continued)	Trichloroethylene				XXX	XXX					
		Trichlorofluoromethane		XXX			XXX					
		Vinyl chloride (Chloroethylene)				XXX	XXX					
17	Volatiles, Non-Halogenated	Benzene				XXX						
		Styrene				XXX						
		Toluene		XXX								
		o-Xylene				XXX						
		m-Xylene and p-Xylene				XXX						
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene				XXX						
		1,2,3,5-Tetrachlorobenzene				XXX						
		1,2,4,5-Tetrachlorobenzene				XXX						
		1,2,3-Trichlorobenzene				XXX						
		1,2,4-Trichlorobenzene				XXX						
		2,4,5-Trichlorotoluene				XXX						
		Hexachlorobenzene				XXX						
		Hexachlorobutadiene				XXX						
		Hexachlorocyclopentadiene				XXX						
		Hexachloroethane				XXX						
		Octachlorostyrene				XXX						
		Pentachlorobenzene				XXX						

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE A: AMHERSTBURG PLANT (ALLIED CHEMICALS CANADA INC.)

		NAME OF EFFLUENT STREAM:	Genetron Effluent				Genetron East Storm Effluent	Mailloux Quarry Effluent	HF Bleed Effluent			
		EFFLUENT STREAM TYPE:	Process				Storm	Storm	Process			
		TOXICITY TEST REQUIRED:	No				No	No	No			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Quarterly 60 days				None	None	Quarterly 60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None	None	Semi-annually 180 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No	No	No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	M	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED										
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin				XXX						XXX
		Octachlorodibenzo-p-dioxin				XXX						XXX
		Octachlorodibenzofuran				XXX						XXX
		Total heptachlorinated dibenzo-p-dioxins				XXX						XXX
		Total heptachlorinated dibenzofurans				XXX						XXX
		Total hexachlorinated dibenzo-p-dioxins				XXX						XXX
		Total hexachlorinated dibenzofurans				XXX						XXX
		Total pentachlorinated dibenzo-p-dioxins				XXX						XXX
		Total pentachlorinated dibenzofurans				XXX						XXX
		Total tetrachlorinated dibenzo-p-dioxins				XXX						XXX
		Total tetrachlorinated dibenzofurans				XXX						XXX
25	Solvent Extractables	Oil and grease			XXX		XXX	XXX			XXX	
IC1†	Chloride	Chloride					XXX	XXX		XXX		
IC2†	Fluoride	Fluoride		XXX			XXX	XXX		XXX		
IC3†	Sulphate	Sulphate						XXX		XXX		

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE A: AMHERSTBURG PLANT (ALLIED CHEMICALS CANADA INC.)

		NAME OF EFFLUENT STREAM:	East Road Drain Effluent	Hydrochloric Acid Stream			
		EFFLUENT STREAM TYPE:	Storm	Process			
		TOXICITY TEST REQUIRED:	No	No			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	Quarterly 60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	Quarterly 60 days			
		QUALITY CONTROL MONITORING REQUIRED:	No	No			
		FREQUENCY OF SAMPLING:	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED					
2	Total cyanide	Total cyanide					
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX				
4a	Nitrogen	Ammonia plus Ammonium					
		Total Kjeldahl nitrogen					
4b		Nitrate + Nitrite					
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX				
5b		Total organic carbon (TOC) (NOTE 1)	XXX				
6	Total phosphorus	Total phosphorus	XXX				
7	Specific conductance	Specific conductance	XXX				
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX				
		Volatile suspended solids (VSS)					
9	Total metals	Aluminum	XXX				
		Beryllium	XXX				
		Boron	XXX				
		Cadmium	XXX				

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Cyanamid (Welland)					Explosive Tech. Int.	
		NAME OF STREAM:	Intake	Millers Creek	Sludge Pond #11	North Area Sewer	Phosphine Sewer	Intake	Discharge at Weir
		STREAM CLASSIFICATION:	Intake	Combined	Combined	-	-	Intake	Combined
ANALYTICAL TEST GROUP		PARAMETERS							
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1,1,2-Trichloroethane	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1,1-Dichloroethane	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1,1-Dichloroethylene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1,2-Dichlorobenzene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1,2-Dichloroethane (Ethylene dichloride)	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1,2-Dichloropropane	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1,3-Dichlorobenzene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1,4-Dichlorobenzene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Bromoform	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Bromomethane	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Carbon tetrachloride	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Chlorobenzene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Chloroform	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Chloromethane	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Cis-1,3-Dichloropropylene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Dibromochloromethane	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Ethylene dibromide	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Methylene chloride	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Tetrachloroethylene (Perchloroethylene)	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Trans-1,2-Dichloroethylene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Trans-1,3-Dichloropropylene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Trichloroethylene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Trichlorofluoromethane	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Vinyl chloride (Chloroethylene)	0/2	0/3	0/4	0/4	0/4	0/2	0/5
17	Volatiles, Non-Halogenated	Benzene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Styrene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Toluene	0/2	0/3	4/4	1/4	0/4	0/2	0/5
		o-Xylene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		m-Xylene and p-Xylene	0/2	0/3	0/4	0/4	0/4	0/2	0/5

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Cyanamid (Welland)					Explosive Tech. Int.	
		NAME OF STREAM:	Intake	Millers Creek	Sludge Pond #11	North Area Sewer	Phosphine Sewer	Intake	Discharge at Weir
		STREAM CLASSIFICATION:	Intake	Combined	Combined	-	-	Intake	Combined
ANALYTICAL TEST GROUP		PARAMETERS							
18	Volatiles, Water Soluble	Acrolein	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Acrylonitrile	0/2	0/3	0/4	0/4	0/4	0/2	0/5
19	Extractables, Base Neutral	Acenaphthene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		5-nitro Acenaphthene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Acenaphthylene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Anthracene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Benz(a)anthracene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Benzo(a)pyrene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Benzo(b)fluoranthene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Benzo(g,h,i)perylene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Benzo(k)fluoranthene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Biphenyl	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Camphene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1-Chloronaphthalene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		2-Chloronaphthalene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Chrysene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Dibenz(a,h)anthracene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Fluoranthene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Fluorene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Indeno(1,2,3-cd)pyrene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Indole	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		1-Methylnaphthalene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		2-Methylnaphthalene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Naphthalene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Perylene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Phenanthrene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Pyrene	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Benzyl butyl phthalate	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Bis(2-ethylhexyl) phthalate	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		Di-n-butyl phthalate	0/2	0/3	0/4	0/4	0/4	0/2	0/5
		4-Bromophenyl phenyl ether	0/2	0/3	0/4	0/4	0/4	0/2	0/5

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE A: AMHERSTBURG PLANT (ALLIED CHEMICALS CANADA INC.)

		NAME OF EFFLUENT STREAM:	East Road Drain Effluent	Hydrochloric Acid Stream			
		EFFLUENT STREAM TYPE:	Storm	Process			
		TOXICITY TEST REQUIRED:	No	No			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	Quarterly 60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	Quarterly 60 days			
		QUALITY CONTROL MONITORING REQUIRED:	No	No			
		FREQUENCY OF SAMPLING:	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED					
16	Volatiles, Halogenated (continued)	Trichloroethylene					XXX
		Trichlorofluoromethane			XXX		
		Vinyl chloride (Chloroethylene)					XXX
17	Volatiles, Non-Halogenated	Benzene					XXX
		Styrene					XXX
		Toluene			XXX		
		o-Xylene					XXX
		m-Xylene and p-Xylene					XXX
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene					XXX
		1,2,3,5-Tetrachlorobenzene					XXX
		1,2,4,5-Tetrachlorobenzene					XXX
		1,2,3-Trichlorobenzene					XXX
		1,2,4-Trichlorobenzene					XXX
		2,4,5-Trichlorotoluene					XXX
		Hexachlorobenzene					XXX
		Hexachlorobutadiene					XXX
		Hexachlorocyclopentadiene					XXX
		Hexachloroethane					XXX
		Octachlorostyrene					XXX
		Pentachlorobenzene					XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE A: AMHERSTBURG PLANT (ALLIED CHEMICALS CANADA INC.)

		NAME OF EFFLUENT STREAM:	East Road Drain Effluent	Hydrochloric Acid Stream			
		EFFLUENT STREAM TYPE:	Storm	Process			
		TOXICITY TEST REQUIRED:	No	No			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	None	Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:		60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	None	Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:		60 days			
		QUALITY CONTROL MONITORING REQUIRED:	No	No			
		FREQUENCY OF SAMPLING:	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED					
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin					
		Octachlorodibenzo-p-dioxin					
		Octachlorodibenzofuran					
		Total heptachlorinated dibenzo-p-dioxins					
		Total heptachlorinated dibenzofurans					
		Total hexachlorinated dibenzo-p-dioxins					
		Total hexachlorinated dibenzofurans					
		Total pentachlorinated dibenzo-p-dioxins					
		Total pentachlorinated dibenzofurans					
		Total tetrachlorinated dibenzo-p-dioxins					
		Total tetrachlorinated dibenzofurans					
25	Solvent Extractables	Oil and grease	XXX				
IC1†	Chloride	Chloride	XXX				
IC2†	Fluoride	Fluoride	XXX				
IC3†	Sulphate	Sulphate					

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE B: AMHERSTBURG PLANT (GENERAL CHEMICAL CANADA LTD.)

		NAME OF EFFLUENT STREAM:	North Drain Effluent				Main Drain Effluent				Effluent to Soda Ash Settling Basin
		EFFLUENT STREAM TYPE:	Combined				Combined				Combined
		TOXICITY TEST REQUIRED:	Yes				Yes				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Semi-annually 180 days				None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Semi-annually 180 days				None
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED									
2	Total cyanide	Total cyanide			XXX				XXX		
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX				XXX				
4a	Nitrogen	Ammonia plus Ammonium		XXX					XXX		
		Total Kjeldahl nitrogen		XXX					XXX		
4b		Nitrate + Nitrite			XXX				XXX		
5a	Organic carbon	Dissolved organic carbon (DOC)			XXX				XXX		
5b		Total organic carbon (TOC) (NOTE 1)			XXX				XXX		
6	Total phosphorus	Total phosphorus			XXX				XXX		
7	Specific conductance	Specific conductance	XXX				XXX				
8	Suspended solids (TSS/VSS)*	Total suspended solids (TSS)	XXX				XXX				
		Volatile suspended solids (VSS)									
9	Total metals	Aluminum				XXX				XXX	XXX
		Beryllium				XXX				XXX	XXX
		Boron				XXX				XXX	XXX
		Cadmium				XXX				XXX	XXX
		Chromium				XXX				XXX	XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE B: AMHERSTBURG PLANT (GENERAL CHEMICAL CANADA LTD.)

		NAME OF EFFLUENT STREAM:	North Drain Effluent				Main Drain Effluent				Effluent to Soda Ash Settling Basin
		EFFLUENT STREAM TYPE:	Combined				Combined				Combined
		TOXICITY TEST REQUIRED:	Yes				Yes				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Semi-annually 180 days				None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Semi-annually 180 days				None
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED									
9	Total metals (continued)	Cobalt				XXX				XXX	XXX
		Copper				XXX				XXX	XXX
		Lead				XXX				XXX	XXX
		Molybdenum				XXX				XXX	XXX
		Nickel				XXX				XXX	XXX
		Silver				XXX				XXX	XXX
		Strontium				XXX				XXX	XXX
		Thallium				XXX				XXX	XXX
		Vanadium				XXX				XXX	XXX
		Zinc				XXX				XXX	XXX
10	Hydrides	Antimony				XXX					XXX
		Arsenic				XXX					XXX
		Selenium				XXX					XXX
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)				XXX			XXX		XXX
12	Mercury	Mercury			XXX				XXX		
14	Phenolics (4AAP)	Phenolics (4AAP)			XXX				XXX		
15	Sulphide	Sulphide			XXX				XXX		

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE B: AMHERSTBURG PLANT (GENERAL CHEMICAL CANADA LTD.)

		NAME OF EFFLUENT STREAM:	North Drain Effluent				Main Drain Effluent				Effluent to Soda Ash Settling Basin
		EFFLUENT STREAM TYPE:	Combined				Combined				Combined
		TOXICITY TEST REQUIRED:	Yes				Yes				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Semi-annually				Semi-annually				None
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				180 days				
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually				Semi-annually				None
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				180 days				
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED									
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane				XXX					
		1,1,2-Trichloroethane				XXX					
		1,1-Dichloroethane				XXX					
		1,1-Dichloroethylene				XXX					
		1,2-Dichlorobenzene				XXX					
		1,2-Dichloroethane (Ethylene dichloride)				XXX					
		1,2-Dichloropropane				XXX					
		1,3-Dichlorobenzene				XXX					
		1,4-Dichlorobenzene				XXX					
		Bromoform				XXX					
		Bromomethane				XXX					
		Carbon tetrachloride				XXX					
		Chlorobenzene				XXX					
		Chloroform				XXX					
		Chloromethane				XXX					
		Cis-1,3-Dichloropropylene				XXX					
		Dibromochloromethane				XXX					
		Ethylene dibromide				XXX					
		Methylene chloride				XXX					
		Tetrachloroethylene (Perchloroethylene)				XXX					
		Trans-1,2-Dichloroethylene				XXX					
		Trans-1,3-Dichloropropylene				XXX					
		Trichloroethylene				XXX					
		Trichlorofluoromethane				XXX					
		Vinyl chloride (Chloroethylene)				XXX					

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE B: AMHERSTBURG PLANT (GENERAL CHEMICAL CANADA LTD.)

		NAME OF EFFLUENT STREAM:	North Drain Effluent				Main Drain Effluent				Effluent to Soda Ash Settling Basin
		EFFLUENT STREAM TYPE:	Combined				Combined				Combined
		TOXICITY TEST REQUIRED:	Yes				Yes				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Semi-annually				Semi-annually				None
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				180 days				
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually				Semi-annually				None
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				180 days				
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED									
25	Solvent Extractables	Oil and grease			XXX				XXX		
IC1†	Chloride	Chloride		XXX				XXX			
IC2†	Fluoride	Fluoride		XXX				XXX			
IC3†	Sulphate	Sulphate		XXX				XXX			

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE C: CHIPPAWA PLANT (NORTON CANADA INC.)

		NAME OF EFFLUENT STREAM:	Sewer A				Sewer B				Sewer C			
		EFFLUENT STREAM TYPE:	Combined				Combined				Combined			
		TOXICITY TEST REQUIRED:	Yes				Yes				Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Semi-annually				Semi-annually				Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				180 days				180 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually				Semi-annually				Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				180 days				180 days			
		QUALITY CONTROL MONITORING REQUIRED:	No				No				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX				XXX				XXX			
4a	Nitrogen	Ammonia plus Ammonium				XXX							XXX	
		Total Kjeldahl nitrogen				XXX							XXX	
4b		Nitrate + Nitrite			XXX								XXX	
5a	Organic carbon	Dissolved organic carbon (DOC)			XXX				XXX				XXX	
5b		Total organic carbon (TOC) (NOTE 1)			XXX				XXX				XXX	
6	Total phosphorus	Total phosphorus			XXX				XXX				XXX	
7	Specific conductance	Specific conductance	XXX				XXX				XXX			
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX				XXX				XXX			
		Volatile suspended solids (VSS)												
9	Total metals	Aluminum			XXX			XXX				XXX		
		Beryllium				XXX				XXX				XXX
		Boron				XXX				XXX				XXX
		Cadmium				XXX				XXX				XXX
		Chromium				XXX				XXX			XXX	
		Cobalt				XXX				XXX				XXX
		Copper				XXX				XXX			XXX	

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE C: CHIPPAWA PLANT (NORTON CANADA INC.)

		NAME OF EFFLUENT STREAM:	Sewer A				Sewer B				Sewer C			
		EFFLUENT STREAM TYPE:	Combined				Combined				Combined			
		TOXICITY TEST REQUIRED:	Yes				Yes				Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Semi-annually 180 days				Semi-annually 180 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Semi-annually 180 days				Semi-annually 180 days			
		QUALITY CONTROL MONITORING REQUIRED:	No				No				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
9	Total metals (continued)	Lead				XXX				XXX				XXX
		Molybdenum				XXX				XXX			XXX	
		Nickel				XXX				XXX				XXX
		Silver				XXX				XXX				XXX
		Strontium				XXX				XXX				XXX
		Thallium				XXX				XXX			XXX	
		Vanadium				XXX				XXX				XXX
		Zinc				XXX			XXX				XXX	
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)				XXX				XXX			XXX	
12	Mercury	Mercury				XXX			XXX				XXX	
25	Solvent Extractables	Oil and grease			XXX				XXX				XXX	
IC3†	Sulphate	Sulphate										XXX		

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Norton					
		NAME OF STREAM:	Intake	Sewer A	Sewer B	Sewer C	Sewer D	Lagoon
		STREAM CLASSIFICATION:	Intake	Combined	Combined	Combined	Combined	
ANALYTICAL TEST GROUP		PARAMETERS						
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1,1,2-Trichloroethane	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1,1-Dichloroethane	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1,1-Dichloroethylene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1,2-Dichlorobenzene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1,2-Dichloroethane (Ethylene dichloride)	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1,2-Dichloropropane	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1,3-Dichlorobenzene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1,4-Dichlorobenzene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Bromoform	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Bromomethane	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Carbon tetrachloride	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Chlorobenzene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Chloroform	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Chloromethane	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Cis-1,3-Dichloropropylene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Dibromochloromethane	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Ethylene dibromide	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Methylene chloride	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Tetrachloroethylene (Perchloroethylene)	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	1 / 4
		Trans-1,2-Dichloroethylene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Trans-1,3-Dichloropropylene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Trichloroethylene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Trichlorofluoromethane	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Vinyl chloride (Chloroethylene)	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
17	Volatiles, Non-Halogenated	Benzene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Styrene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Toluene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		o-Xylene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		m-Xylene and p-Xylene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4

TABLE 3 - INORGANIC CHEMICAL SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Norton					
		NAME OF STREAM:	Intake	Sewer A	Sewer B	Sewer C	Sewer D	Lagoon
		STREAM CLASSIFICATION:	Intake	Combined	Combined	Combined	Combined	
ANALYTICAL TEST GROUP		PARAMETERS						
18	Volatiles, Water Soluble	Acrolein	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Acrylonitrile	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
19	Extractables, Base Neutral	Acenaphthene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		5-nitro Acenaphthene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Acenaphthylene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Anthracene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Benz(a)anthracene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Benzo(a)pyrene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Benzo(b)fluoranthene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Benzo(g,h,i)perylene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Benzo(k)fluoranthene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Biphenyl	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Camphene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1-Chloronaphthalene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		2-Chloronaphthalene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Chrysene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Dibenz(a,h)anthracene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Fluoranthene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Fluorene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Indeno(1,2,3-cd)pyrene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Indole	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		1-Methylnaphthalene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		2-Methylnaphthalene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Naphthalene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Perylene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Phenanthrene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Pyrene	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Benzyl butyl phthalate	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Bis(2-ethylhexyl) phthalate	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		Di-n-butyl phthalate	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4
		4-Bromophenyl phenyl ether	0 / 4	0 / 1	0 / 4	0 / 5	0 / 4	0 / 4

EFFLUENT MONITORING REGUALTION - INORGANIC CHEMICAL SECTOR

SCHEDULE D: CORNWALL WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Effluent in Manhole 15				Effluent in LEL-2			
		EFFLUENT STREAM TYPE:	Process				Combined			
		TOXICITY TEST REQUIRED:	No				Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Quarterly				Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	60 days				60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Monthly				Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	2 weeks				60 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED								
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX				XXX			
4a	Nitrogen	Ammonia plus Ammonium				XXX				XXX
		Total Kjeldahl nitrogen				XXX				XXX
4b		Nitrate + Nitrite		XXX					XXX	
5a	Organic carbon	Dissolved organic carbon (DOC)				XXX			XXX	
5b		Total organic carbon (TOC) (NOTE 1)				XXX			XXX	
6	Total phosphorus	Total phosphorus				XXX			XXX	
7	Specific conductance	Specific conductance	XXX				XXX			
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX				XXX			
		Volatile suspended solids (VSS)								
9	Total metals	Aluminum		XXX					XXX	
		Beryllium				XXX				XXX
		Boron				XXX				XXX
		Cadmium				XXX			XXX	
		Chromium				XXX			XXX	
		Cobalt				XXX				XXX
		Copper				XXX		XXX		

EFFLUENT MONITORING REGUALTION - INORGANIC CHEMICAL SECTOR

SCHEDULE D: CORNWALL WORKS (C-I-L INC.)

			NAME OF EFFLUENT STREAM:	Effluent in Manhole 15				Effluent in LEL-2			
			EFFLUENT STREAM TYPE:	Process				Combined			
			TOXICITY TEST REQUIRED:	No				Yes			
			CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Quarterly				Quarterly			
			CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	60 days				60 days			
			CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Monthly				Quarterly			
			CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	2 weeks				60 days			
			QUALITY CONTROL MONITORING REQUIRED:	Yes				No			
			FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED									
9	Total metals (continued)	Lead					XXX				XXX
		Molybdenum					XXX				XXX
		Nickel					XXX				XXX
		Silver					XXX				XXX
		Strontium					XXX				XXX
		Thallium					XXX				XXX
		Vanadium					XXX				XXX
		Zinc			XXX				XXX		
10	Hydrides	Antimony					XXX			XXX	
		Arsenic					XXX				XXX
		Selenium					XXX				XXX
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)					XXX			XXX	
12	Mercury	Mercury		XXX				XXX			
14	Phenolics (4AAP)	Phenolics (4AAP)				XXX				XXX	
15	Sulphide	Sulphide									XXX
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane									XXX
		1,1,2-Trichloroethane									XXX
		1,1-Dichloroethane									XXX
		1,1-Dichloroethylene									XXX

EFFLUENT MONITORING REGUALTION - INORGANIC CHEMICAL SECTOR

SCHEDULE D: CORNWALL WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Effluent in Manhole 15				Effluent in LEL-2			
		EFFLUENT STREAM TYPE:	Process				Combined			
		TOXICITY TEST REQUIRED:	No				Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Quarterly				Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	60 days				60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Monthly				Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	2 weeks				60 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED								
16	Volatiles, Halogenated (continued)	1,2-Dichlorobenzene								XXX
		1,2-Dichloroethane (Ethylene dichloride)								XXX
		1,2-Dichloropropane								XXX
		1,3-Dichlorobenzene								XXX
		1,4-Dichlorobenzene								XXX
		Bromoform								XXX
		Bromomethane								XXX
		Carbon tetrachloride								XXX
		Chlorobenzene								XXX
		Chloroform							XXX	
		Chloromethane								XXX
		Cis-1,3-Dichloropropylene								XXX
		Dibromochloromethane							XXX	
		Ethylene dibromide								XXX
		Methylene chloride								XXX
		Tetrachloroethylene (Perchloroethylene)							XXX	
		Trans-1,2-Dichloroethylene								XXX
		Trans-1,3-Dichloropropylene								XXX
		Trichloroethylene								XXX
		Trichlorofluoromethane								XXX
		Vinyl chloride (Chloroethylene)								XXX

EFFLUENT MONITORING REGUALTION - INORGANIC CHEMICAL SECTOR

SCHEDULE D: CORNWALL WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Effluent in Manhole 15				Effluent in LEL-2			
		EFFLUENT STREAM TYPE:	Process				Combined			
		TOXICITY TEST REQUIRED:	No				Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Quarterly 60 days				Quarterly 60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Monthly 2 weeks				Quarterly 60 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED								
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene				XXX				XXX
		1,2,3,5-Tetrachlorobenzene				XXX				XXX
		1,2,4,5-Tetrachlorobenzene				XXX				XXX
		1,2,3-Trichlorobenzene				XXX				XXX
		1,2,4-Trichlorobenzene				XXX				XXX
		2,4,5-Trichlorotoluene				XXX				XXX
		Hexachlorobenzene				XXX				XXX
		Hexachlorobutadiene				XXX				XXX
		Hexachlorocyclopentadiene				XXX				XXX
		Hexachloroethane				XXX				XXX
		Octachlorostyrene				XXX				XXX
		Pentachlorobenzene				XXX				XXX
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin				XXX				
		Octachlorodibenzo-p-dioxin				XXX				
		Octachlorodibenzofuran				XXX				
		Total heptachlorinated dibenzo-p-dioxins				XXX				
		Total heptachlorinated dibenzofurans				XXX				
		Total hexachlorinated dibenzo-p-dioxins				XXX				
		Total hexachlorinated dibenzofurans				XXX				
		Total pentachlorinated dibenzo-p-dioxins				XXX				
		Total pentachlorinated dibenzofurans				XXX				
		Total tetrachlorinated dibenzo-p-dioxins				XXX				
		Total tetrachlorinated dibenzofurans				XXX				

EFFLUENT MONITORING REGUALTION - INORGANIC CHEMICAL SECTOR

SCHEDULE D: CORNWALL WORKS (C-I-L INC.)

NAME OF EFFLUENT STREAM:			Effluent in Manhole 15				Effluent in LEL-2			
EFFLUENT STREAM TYPE:			Process				Combined			
TOXICITY TEST REQUIRED:			No				Yes			
CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):			Quarterly				Quarterly			
CHARACTERIZATION SAMPLING MINIMUM INTERVAL:			60 days				60 days			
CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:			Monthly				Quarterly			
CHARACTERIZATION SAMPLING MINIMUM INTERVAL:			2 weeks				60 days			
QUALITY CONTROL MONITORING REQUIRED:			Yes				No			
FREQUENCY OF SAMPLING:			D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED								
25	Solvent Extractables	Oil and grease			XXX				XXX	
IC1†	Chloride	Chloride						XXX		
IC3†	Sulphate	Sulphate						XXX		

SCHEDULE E: CORNWALL WORKS (STANCHEM, A DIVISION OF C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Effluent from Conpac			
		EFFLUENT STREAM TYPE:	Batch			
		TOXICITY TEST REQUIRED:	Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days			
		QUALITY CONTROL MONITORING REQUIRED:	No			
		FREQUENCY OF SAMPLING:	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX			
4a	Nitrogen	Ammonia plus Ammonium				XXX
		Total Kjeldahl nitrogen				XXX
4b		Nitrate + Nitrite		XXX		
5a	Organic carbon	Dissolved organic carbon (DOC)			XXX	
5b		Total organic carbon (TOC) (NOTE 1)			XXX	
6	Total phosphorus	Total phosphorus			XXX	
7	Specific conductance	Specific conductance	XXX			
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX			
		Volatile suspended solids (VSS)				
9	Total metals	Aluminum		XXX		
		Beryllium				XXX
		Boron				XXX
		Cadmium		XXX		
		Chromium		XXX		
		Cobalt				XXX
		Copper		XXX		

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE E: CORNWALL WORKS (STANCHEM, A DIVISION OF C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Effluent from Conpac			
		EFFLUENT STREAM TYPE:	Batch			
		TOXICITY TEST REQUIRED:	Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days			
		QUALITY CONTROL MONITORING REQUIRED:	No			
		FREQUENCY OF SAMPLING:	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
9	Total metals (continued)	Lead		XXX		
		Molybdenum				XXX
		Nickel			XXX	
		Silver				XXX
		Strontium				XXX
		Thallium		XXX		
		Vanadium				XXX
		Zinc		XXX		
10	Hydrides	Antimony			XXX	
		Arsenic				XXX
		Selenium				XXX
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)		XXX		
12	Mercury	Mercury		XXX		
14	Phenolics (4AAP)	Phenolics (4AAP)			XXX	
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane				XXX
		1,1,2-Trichloroethane				XXX
		1,1-Dichloroethane				XXX
		1,1-Dichloroethylene				XXX
		1,2-Dichlorobenzene				XXX
		1,2-Dichloroethane (Ethylene dichloride)				XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE E: CORNWALL WORKS (STANCHEM, A DIVISION OF C-I-L INC.)

NAME OF EFFLUENT STREAM:			Effluent from Conpac			
EFFLUENT STREAM TYPE:			Batch			
TOXICITY TEST REQUIRED:			Yes			
CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:			Semi-annually 180 days			
CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:			Semi-annually 180 days			
QUALITY CONTROL MONITORING REQUIRED:			No			
FREQUENCY OF SAMPLING:			D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
16	Volatiles, Halogenated (continued)	1,2-Dichloropropane				XXX
		1,3-Dichlorobenzene				XXX
		1,4-Dichlorobenzene				XXX
		Bromoform				XXX
		Bromomethane				XXX
		Carbon tetrachloride				XXX
		Chlorobenzene				XXX
		Chloroform		XXX		
		Chloromethane		XXX		
		Cis-1,3-Dichloropropylene				XXX
		Dibromochloromethane			XXX	
		Ethylene dibromide				XXX
		Methylene chloride				XXX
		Tetrachloroethylene (Perchloroethylene)			XXX	
		Trans-1,2-Dichloroethylene				XXX
		Trans-1,3-Dichloropropylene				XXX
		Trichloroethylene				XXX
		Trichlorofluoromethane				XXX
		Vinyl chloride (Chloroethylene)				XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE E: CORNWALL WORKS (STANCHEM, A DIVISION OF C-I-L INC.)

NAME OF EFFLUENT STREAM:			Effluent from Conpac			
EFFLUENT STREAM TYPE:			Batch			
TOXICITY TEST REQUIRED:			Yes			
CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):			Semi-annually			
CHARACTERIZATION SAMPLING MINIMUM INTERVAL:			180 days			
CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:			Semi-annually			
CHARACTERIZATION SAMPLING MINIMUM INTERVAL:			180 days			
QUALITY CONTROL MONITORING REQUIRED:			No			
FREQUENCY OF SAMPLING:			D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene				XXX
		1,2,3,5-Tetrachlorobenzene				XXX
		1,2,4,5-Tetrachlorobenzene				XXX
		1,2,3-Trichlorobenzene				XXX
		1,2,4-Trichlorobenzene				XXX
		2,4,5-Trichlorotoluene				XXX
		Hexachlorobenzene				XXX
		Hexachlorobutadiene				XXX
		Hexachlorocyclopentadiene				XXX
		Hexachloroethane				XXX
		Octachlorostyrene				XXX
		Pentachlorobenzene				XXX
25	Solvent Extractables	Oil and grease			XXX	
IC1†	Chloride	Chloride		XXX		
IC3†	Sulphate	Sulphate		XXX		

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE F: ELMIRA PLANT (SULCO CHEMICALS LIMITED)

		NAME OF EFFLUENT STREAM:	Final Effluent				Storm Effluent
		EFFLUENT STREAM TYPE:	Combined				Storm
		TOXICITY TEST REQUIRED:	Yes				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED					
2	Total cyanide	Total cyanide			XXX		XXX
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX				XXX
4a	Nitrogen	Ammonia plus Ammonium				XXX	XXX
		Total Kjeldahl nitrogen				XXX	XXX
4b		Nitrate + Nitrite			XXX		XXX
5a	Organic carbon	Dissolved organic carbon (DOC)			XXX		XXX
5b		Total organic carbon (TOC) (NOTE 1)			XXX		XXX
6	Total phosphorus	Total phosphorus		XXX			XXX
7	Specific conductance	Specific conductance	XXX				XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX				XXX
		Volatile suspended solids (VSS)					
9	Total metals	Aluminum		XXX			XXX
		Beryllium				XXX	XXX
		Boron				XXX	XXX
		Cadmium				XXX	XXX
		Chromium				XXX	XXX

SCHEDULE F: ELMIRA PLANT (SULCO CHEMICALS LIMITED)

		NAME OF EFFLUENT STREAM:	Final Effluent				Storm Effluent
		EFFLUENT STREAM TYPE:	Combined				Storm
		TOXICITY TEST REQUIRED:	Yes				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED					
9	Total Metals (continued)	Cobalt				XXX	XXX
		Copper				XXX	XXX
		Lead				XXX	XXX
		Molybdenum				XXX	XXX
		Nickel				XXX	XXX
		Silver				XXX	XXX
		Strontium				XXX	XXX
		Thallium				XXX	XXX
		Vanadium		XXX			XXX
		Zinc		XXX			XXX
10	Hydrides	Antimony				XXX	XXX
		Arsenic		XXX			XXX
		Selenium				XXX	XXX
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)				XXX	XXX
14	Phenolics (4AAP)	Phenolics (4AAP)		XXX			XXX
15	Sulphide	Sulphide			XXX		XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE F: ELMIRA PLANT (SULCO CHEMICALS LIMITED)

		NAME OF EFFLUENT STREAM:	Final Effluent				Storm Effluent
		EFFLUENT STREAM TYPE:	Combined				Storm
		TOXICITY TEST REQUIRED:	Yes				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED					
17	Volatiles, Non-Halogenated	Benzene				XXX	XXX
		Styrene				XXX	XXX
		Toluene		XXX			XXX
		o-Xylene				XXX	XXX
		m-Xylene and p-Xylene				XXX	XXX
25	Solvent Extractables	Oil and grease			XXX		XXX
IC1†	Chloride	Chloride		XXX			XXX
IC2†	Fluoride	Fluoride		XXX			XXX
IC3†	Sulphate	Sulphate		XXX			XXX

SCHEDULE G: HAMILTON PLANT (COLUMBIAN CHEMICALS CANADA LTD.)

		NAME OF EFFLUENT STREAM:	West Outfall	East Outfall
		EFFLUENT STREAM TYPE:	Storm	Storm
		TOXICITY TEST REQUIRED:	No	No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None
		QUALITY CONTROL MONITORING REQUIRED:	No	No
		FREQUENCY OF SAMPLING:	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED		
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX	XXX
4a	Nitrogen	Ammonia plus Ammonium	XXX	XXX
		Total Kjeldahl nitrogen	XXX	XXX
4b		Nitrate + Nitrite	XXX	XXX
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)	XXX	XXX
6	Total phosphorus	Total phosphorus	XXX	XXX
7	Specific conductance	Specific conductance	XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX	XXX
		Volatile suspended solids (VSS)		
9	Total metals	Aluminum	XXX	XXX
		Beryllium	XXX	XXX
		Boron	XXX	XXX
		Cadmium	XXX	XXX
		Chromium	XXX	XXX
		Cobalt	XXX	XXX
		Copper	XXX	XXX

SCHEDULE G: HAMILTON PLANT (COLUMBIAN CHEMICALS CANADA LTD.)

			West Outfall	East Outfall
		NAME OF EFFLUENT STREAM:	West Outfall	East Outfall
		EFFLUENT STREAM TYPE:	Storm	Storm
		TOXICITY TEST REQUIRED:	No	No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None
		QUALITY CONTROL MONITORING REQUIRED:	No	No
		FREQUENCY OF SAMPLING:	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED		
9	Total metals (continued)	Lead	XXX	XXX
		Molybdenum	XXX	XXX
		Nickel	XXX	XXX
		Silver	XXX	XXX
		Strontium	XXX	XXX
		Thallium	XXX	XXX
		Vanadium	XXX	XXX
		Zinc	XXX	XXX
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)	XXX	XXX
12	Mercury	Mercury	XXX	XXX
14	Phenolics (4AAP)	Phenolics (4AAP)	XXX	XXX
15	Sulphide	Sulphide	XXX	XXX
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	XXX	XXX
		1,1,2-Trichloroethane	XXX	XXX
		1,1-Dichloroethane	XXX	XXX
		1,1-Dichloroethylene	XXX	XXX
		1,2-Dichlorobenzene	XXX	XXX
		1,2-Dichloroethane (Ethylene dichloride)	XXX	XXX
		1,2-Dichloropropane	XXX	XXX
		1,3-Dichlorobenzene	XXX	XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE G: HAMILTON PLANT (COLUMBIAN CHEMICALS CANADA LTD.)

		NAME OF EFFLUENT STREAM:	West Outfall	East Outfall
		EFFLUENT STREAM TYPE:	Storm	Storm
		TOXICITY TEST REQUIRED:	No	No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None
		QUALITY CONTROL MONITORING REQUIRED:	No	No
		FREQUENCY OF SAMPLING:	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED		
16	Volatiles, Halogenated (continued)	1,4-Dichlorobenzene	XXX	XXX
		Bromoform	XXX	XXX
		Bromomethane	XXX	XXX
		Carbon tetrachloride	XXX	XXX
		Chlorobenzene	XXX	XXX
		Chloroform	XXX	XXX
		Chloromethane	XXX	XXX
		Cis-1,3-Dichloropropylene	XXX	XXX
		Dibromochloromethane	XXX	XXX
		Ethylene dibromide	XXX	XXX
		Methylene chloride	XXX	XXX
		Tetrachloroethylene (Perchloroethylene)	XXX	XXX
		Trans-1,2-Dichloroethylene	XXX	XXX
		Trans-1,3-Dichloropropylene	XXX	XXX
		Trichloroethylene	XXX	XXX
		Trichlorofluoromethane	XXX	XXX
		Vinyl chloride (Chloroethylene)	XXX	XXX
25	Solvent Extractables	Oil and grease	XXX	XXX
IC1†	Chloride	Chloride	XXX	XXX
IC3†	Sulphate	Sulphate	XXX	XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Drainage Ditch after Emergency Containment Basin				Effluent from Gypsum Ponds				Effluent from 30" Concrete Pipe			
		EFFLUENT STREAM TYPE:	Process				Combined				Combined			
		TOXICITY TEST REQUIRED:	No				No				No			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Quarterly				Quarterly				Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	60 days				60 days				60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually				Semi-annually				Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				180 days				180 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX				XXX				XXX			
4a	Nitrogen	Ammonia plus Ammonium	XXX				XXX				XXX			
		Total Kjeldahl nitrogen	XXX						XXX		XXX			
4b		Nitrate + Nitrite	XXX				XXX				XXX			
5a	Organic carbon	Dissolved organic carbon (DOC)			XXX				XXX				XXX	
5b		Total organic carbon (TOC) (NOTE 1)			XXX				XXX				XXX	
6	Total phosphorus	Total phosphorus			XXX		XXX					XXX		
7	Specific conductance	Specific conductance	XXX				XXX				XXX			
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX				XXX				XXX			
		Volatile suspended solids (VSS)												
9	Total metals	Aluminum			XXX				XXX					XXX
		Beryllium				XXX				XXX				XXX
		Boron				XXX				XXX				XXX
		Cadmium				XXX				XXX				XXX
		Chromium			XXX					XXX			XXX	
		Cobalt				XXX				XXX				XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Drainage Ditch after Emergency Containment Basin				Effluent from Gypsum Ponds				Effluent from 30" Concrete Pipe			
		EFFLUENT STREAM TYPE:	Process				Combined				Combined			
		TOXICITY TEST REQUIRED:	No				No				No			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Quarterly				Quarterly				Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	60 days				60 days				60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually				Semi-annually				Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				180 days				180 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
9	Total metals (continued)	Copper				XXX				XXX				XXX
		Lead				XXX				XXX				XXX
		Molybdenum				XXX				XXX				XXX
		Nickel			XXX					XXX				XXX
		Silver				XXX			XXX					XXX
		Strontium				XXX				XXX				XXX
		Thallium				XXX				XXX				XXX
		Vanadium			XXX					XXX			XXX	
		Zinc			XXX					XXX			XXX	
10	Hydrides	Antimony								XXX				
		Arsenic								XXX				
		Selenium								XXX				
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)			XXX					XXX			XXX	
12	Mercury	Mercury								XXX				
14	Phenolics (4AAP)	Phenolics (4AAP)				XXX			XXX					XXX
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane								XXX				XXX
		1,1,2-Trichloroethane								XXX				XXX
		1,1-Dichloroethane								XXX				XXX
		1,1-Dichloroethylene								XXX				XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Drainage Ditch after Emergency Containment Basin				Effluent from Gypsum Ponds				Effluent from 30" Concrete Pipe			
		EFFLUENT STREAM TYPE:	Process				Combined				Combined			
		TOXICITY TEST REQUIRED:	No				No				No			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Quarterly 60 days				Quarterly 60 days				Quarterly 60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Semi-annually 180 days				Semi-annually 180 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
16	Volatiles, Halogenated (continued)	1,2-Dichlorobenzene								XXX				XXX
		1,2-Dichloroethane (Ethylene dichloride)								XXX				XXX
		1,2-Dichloropropane								XXX				XXX
		1,3-Dichlorobenzene								XXX				XXX
		1,4-Dichlorobenzene								XXX				XXX
		Bromoform								XXX				XXX
		Bromomethane								XXX				XXX
		Carbon tetrachloride								XXX				XXX
		Chlorobenzene								XXX				XXX
		Chloroform								XXX				XXX
		Chloromethane								XXX				XXX
		Cis-1,3-Dichloropropylene								XXX				XXX
		Dibromochloromethane								XXX				XXX
		Ethylene dibromide								XXX				XXX
		Methylene chloride								XXX				XXX
		Tetrachloroethylene (Perchloroethylene)								XXX				XXX
		Trans-1,2-Dichloroethylene								XXX				XXX
		Trans-1,3-Dichloropropylene								XXX				XXX
		Trichloroethylene								XXX				XXX
		Trichlorofluoromethane								XXX				XXX
		Vinyl chloride (Chloroethylene)								XXX				XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Drainage Ditch after Emergency Containment Basin				Effluent from Gypsum Ponds				Effluent from 30" Concrete Pipe			
		EFFLUENT STREAM TYPE:	Process				Combined				Combined			
		TOXICITY TEST REQUIRED:	No				No				No			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Quarterly				Quarterly				Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	60 days				60 days				60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually				Semi-annually				Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				180 days				180 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
17	Volatiles, Non-Halogenated	Benzene								XXX				
		Styrene								XXX				
		Toluene								XXX				
		o-Xylene								XXX				
		m-Xylene and p-Xylene								XXX				
19	Extractables, Base Neutral	Acenaphthene												
		5-nitro Acenaphthene												
		Acenaphthylene												
		Anthracene												
		Benz(a)anthracene												
		Benzo(a)pyrene												
		Benzo(b)fluoranthene												
		Benzo(g,h,i)perylene												
		Benzo(k)fluoranthene												
		Biphenyl												
		Camphene												
		1-Chloronaphthalene												
		2-Chloronaphthalene												
		Chrysene												
		Dibenz(a,h)anthracene												
		Fluoranthene												
		Fluorene												
		Indeno(1,2,3-cd)pyrene												

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Drainage Ditch after Emergency Containment Basin				Effluent from Gypsum Ponds				Effluent from 30" Concrete Pipe			
		EFFLUENT STREAM TYPE:	Process				Combined				Combined			
		TOXICITY TEST REQUIRED:	No				No				No			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Quarterly				Quarterly				Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	60 days				60 days				60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually				Semi-annually				Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				180 days				180 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
19	Extractables, Base Neutral (continued)	Indole												
		1-Methylnaphthalene												
		2-Methylnaphthalene												
		Naphthalene												
		Perylene												
		Phenanthrene												
		Pyrene												
		Benzyl butyl phthalate								XXX				
		Bis(2-ethylhexyl) phthalate								XXX				
		Di-n-butyl phthalate								XXX				
		4-Bromophenyl phenyl ether								XXX				
		4-Chlorophenyl phenyl ether								XXX				
		Bis(2-chloroisopropyl)ether								XXX				
		Bis(2-chloroethyl)ether								XXX				
		Diphenyl ether								XXX				
		2,4-Dinitrotoluene					XXX							
		2,6-Dinitrotoluene					XXX							
		Bis(2-chloroethoxy)methane								XXX				
		Diphenylamine								XXX				
		N-Nitrosodiphenylamine								XXX				
		N-Nitrosodi-n-propylamine								XXX				
25	Solvent Extractables	Oil and grease			XXX				XXX				XXX	

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Drainage Ditch after Emergency Containment Basin				Effluent from Gypsum Ponds				Effluent from 30" Concrete Pipe			
		EFFLUENT STREAM TYPE:	Process				Combined				Combined			
		TOXICITY TEST REQUIRED:	No				No				No			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Quarterly 60 days				Quarterly 60 days				Quarterly 60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Semi-annually 180 days				Semi-annually 180 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
IC2†	Fluoride	Fluoride			XXX		XXX					XXX		
IC3†	Sulphate	Sulphate		XXX				XXX				XXX		

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Effluent in 18" Black Polyethylene Pipe				Effluent in Manhole #55				Effluent in 42" from A-II			
		EFFLUENT STREAM TYPE:	Combined				Combined				Combined			
		TOXICITY TEST REQUIRED:	No				No				No			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Quarterly				Quarterly				Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	60 days				60 days				60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually				Semi-annually				Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				180 days				180 days			
		QUALITY CONTROL MONITORING REQUIRED:	No				No				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX				XXX				XXX			
4a	Nitrogen	Ammonia plus Ammonium	XXX				XXX				XXX			
		Total Kjeldahl nitrogen	XXX				XXX				XXX			
4b		Nitrate + Nitrite	XXX				XXX				XXX			
5a	Organic carbon	Dissolved organic carbon (DOC)			XXX				XXX				XXX	
5b		Total organic carbon (TOC) (NOTE 1)			XXX				XXX				XXX	
6	Total phosphorus	Total phosphorus			XXX				XXX				XXX	
7	Specific conductance	Specific conductance	XXX				XXX				XXX			
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX				XXX				XXX			
		Volatile suspended solids (VSS)												
9	Total metals	Aluminum				XXX				XXX				XXX
		Beryllium				XXX				XXX				XXX
		Boron				XXX				XXX				XXX
		Cadmium				XXX				XXX				XXX
		Chromium				XXX				XXX				XXX
		Cobalt				XXX				XXX				XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Effluent in 18" Black Polyethylene Pipe				Effluent in Manhole #55				Effluent in 42" from A-II			
		EFFLUENT STREAM TYPE:	Combined				Combined				Combined			
		TOXICITY TEST REQUIRED:	No				No				No			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Quarterly				Quarterly				Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	60 days				60 days				60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually				Semi-annually				Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				180 days				180 days			
		QUALITY CONTROL MONITORING REQUIRED:	No				No				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
9	Total metals (continued)	Copper				XXX				XXX				XXX
		Lead				XXX				XXX				XXX
		Molybdenum				XXX				XXX				XXX
		Nickel				XXX				XXX				XXX
		Silver				XXX				XXX				XXX
		Strontium				XXX				XXX				XXX
		Thallium				XXX				XXX				XXX
		Vanadium				XXX				XXX				XXX
		Zinc				XXX				XXX				XXX
10	Hydrides	Antimony												XXX
		Arsenic												XXX
		Selenium												XXX
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)				XXX				XXX				XXX
12	Mercury	Mercury												
14	Phenolics (4AAP)	Phenolics (4AAP)				XXX				XXX				XXX
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane												
		1,1,2-Trichloroethane												
		1,1-Dichloroethane												
		1,1-Dichloroethylene												

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Effluent in 18" Black Polyethylene Pipe				Effluent in Manhole #55				Effluent in 42" from A-II			
		EFFLUENT STREAM TYPE:	Combined				Combined				Combined			
		TOXICITY TEST REQUIRED:	No				No				No			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Quarterly				Quarterly				Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	60 days				60 days				60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually				Semi-annually				Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				180 days				180 days			
		QUALITY CONTROL MONITORING REQUIRED:	No				No				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
16	Volatiles, Halogenated (continued)	1,2-Dichlorobenzene												
		1,2-Dichloroethane (Ethylene dichloride)												
		1,2-Dichloropropane												
		1,3-Dichlorobenzene												
		1,4-Dichlorobenzene												
		Bromoform												
		Bromomethane												
		Carbon tetrachloride												
		Chlorobenzene												
		Chloroform												
		Chloromethane												
		Cis-1,3-Dichloropropylene												
		Dibromochloromethane												
		Ethylene dibromide												
		Methylene chloride												
		Tetrachloroethylene (Perchloroethylene)												
		Trans-1,2-Dichloroethylene												
		Trans-1,3-Dichloropropylene												
		Trichloroethylene												
		Trichlorofluoromethane												
		Vinyl chloride (Chloroethylene)												

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Effluent in 18" Black Polyethylene Pipe				Effluent in Manhole #55				Effluent in 42" from A-II			
		EFFLUENT STREAM TYPE:	Combined				Combined				Combined			
		TOXICITY TEST REQUIRED:	No				No				No			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Quarterly 60 days				Quarterly 60 days				Quarterly 60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Semi-annually 180 days				Semi-annually 180 days			
		QUALITY CONTROL MONITORING REQUIRED:	No				No				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
17	Volatiles, Non-Halogenated	Benzene												XXX
		Styrene												XXX
		Toluene												XXX
		o-Xylene												XXX
		m-Xylene and p-Xylene												XXX
19	Extractables, Base Neutral	Acenaphthene												
		5-nitro Acenaphthene												
		Acenaphthylene												
		Anthracene												
		Benz(a)anthracene												
		Benzo(a)pyrene												
		Benzo(b)fluoranthene												
		Benzo(g,h,i)perylene												
		Benzo(k)fluoranthene												
		Biphenyl												
		Camphene												
		1-Chloronaphthalene												
		2-Chloronaphthalene												
		Chrysene												
		Dibenz(a,h)anthracene												
		Fluoranthene												
		Fluorene												
		Indeno(1,2,3-cd)pyrene												

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Effluent in 18" Black Polyethylene Pipe				Effluent in Manhole #55				Effluent in 42" from A-II			
		EFFLUENT STREAM TYPE:	Combined				Combined				Combined			
		TOXICITY TEST REQUIRED:	No				No				No			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Quarterly				Quarterly				Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	60 days				60 days				60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually				Semi-annually				Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				180 days				180 days			
		QUALITY CONTROL MONITORING REQUIRED:	No				No				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
19	Extractables, Base Neutral (continued)	Indole												
		1-Methylnaphthalene												
		2-Methylnaphthalene												
		Naphthalene												
		Perylene												
		Phenanthrene												
		Pyrene												
		Benzyl butyl phthalate												
		Bis(2-ethylhexyl) phthalate												
		Di-n-butyl phthalate												
		4-Bromophenyl phenyl ether												
		4-Chlorophenyl phenyl ether												
		Bis(2-chloroisopropyl)ether												
		Bis(2-chloroethyl)ether												
		Diphenyl ether												
		2,4-Dinitrotoluene												
		2,6-Dinitrotoluene												
		Bis(2-chloroethoxy)methane												
		Diphenylamine												
		N-Nitrosodiphenylamine												
		N-Nitrosodi-n-propylamine												
25	Solvent Extractables	Oil and grease			XXX				XXX				XXX	

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

NAME OF EFFLUENT STREAM:			Effluent in 18" Black Polyethylene Pipe				Effluent in Manhole #55				Effluent in 42" from A-II			
EFFLUENT STREAM TYPE:			Combined				Combined				Combined			
TOXICITY TEST REQUIRED:			No				No				No			
CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):			Quarterly				Quarterly				Quarterly			
CHARACTERIZATION SAMPLING MINIMUM INTERVAL:			60 days				60 days				60 days			
CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:			Semi-annually				Semi-annually				Semi-annually			
CHARACTERIZATION SAMPLING MINIMUM INTERVAL:			180 days				180 days				180 days			
QUALITY CONTROL MONITORING REQUIRED:			No				No				No			
FREQUENCY OF SAMPLING:			D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
IC2†	Fluoride	Fluoride												
IC3†	Sulphate	Sulphate			XXX									

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Effluent from A-I Regenerator				A-II Neutralizer Pit Overflow				Effluent in 72" Line from A-I
		EFFLUENT STREAM TYPE:	Batch				Combined				OTCW
		TOXICITY TEST REQUIRED:	No				No				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Quarterly 60 days				None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Semi-annually 180 days				None
		QUALITY CONTROL MONITORING REQUIRED:	No				No				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED									
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX				XXX				XXX
4a	Nitrogen	Ammonia plus Ammonium				XXX				XXX	XXX
		Total Kjeldahl nitrogen				XXX				XXX	
4b		Nitrate + Nitrite				XXX				XXX	
5a	Organic carbon	Dissolved organic carbon (DOC)			XXX				XXX		XXX
5b		Total organic carbon (TOC) (NOTE 1)			XXX				XXX		XXX
6	Total phosphorus	Total phosphorus			XXX				XXX		XXX
7	Specific conductance	Specific conductance	XXX				XXX				XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX				XXX				XXX
		Volatile suspended solids (VSS)									
9	Total metals	Aluminum				XXX				XXX	
		Beryllium				XXX				XXX	
		Boron				XXX				XXX	
		Cadmium				XXX				XXX	
		Chromium				XXX				XXX	
		Cobalt				XXX				XXX	

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Effluent from A-I Regenerator				A-II Neutralizer Pit Overflow				Effluent in 72" Line from A-I
		EFFLUENT STREAM TYPE:	Batch				Combined				OTCW
		TOXICITY TEST REQUIRED:	No				No				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Semi-annually				Quarterly				None
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				60 days				
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually				Semi-annually				None
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				180 days				
		QUALITY CONTROL MONITORING REQUIRED:	No				No				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED									
9	Total metals (continued)	Copper				XXX				XXX	
		Lead				XXX				XXX	
		Molybdenum				XXX				XXX	
		Nickel				XXX				XXX	
		Silver				XXX				XXX	
		Strontium				XXX				XXX	
		Thallium				XXX				XXX	
		Vanadium				XXX				XXX	
		Zinc				XXX				XXX	
10	Hydrides	Antimony				XXX				XXX	
		Arsenic				XXX				XXX	
		Selenium				XXX				XXX	
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)				XXX				XXX	
12	Mercury	Mercury									
14	Phenolics (4AAP)	Phenolics (4AAP)				XXX				XXX	
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane									
		1,1,2-Trichloroethane									
		1,1-Dichloroethane									
		1,1-Dichloroethylene									

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

NAME OF EFFLUENT STREAM:			Effluent from A-I Regenerator				A-II Neutralizer Pit Overflow				Effluent in 72" Line from A-I
EFFLUENT STREAM TYPE:			Batch				Combined				OTCW
TOXICITY TEST REQUIRED:			No				No				No
CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):			Semi-annually				Quarterly				None
CHARACTERIZATION SAMPLING MINIMUM INTERVAL:			180 days				60 days				
CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:			Semi-annually				Semi-annually				None
CHARACTERIZATION SAMPLING MINIMUM INTERVAL:			180 days				180 days				
QUALITY CONTROL MONITORING REQUIRED:			No				No				No
FREQUENCY OF SAMPLING:			D	TW	W	M	D	TW	W	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED									
16	Volatiles, Halogenated (continued)	1,2-Dichlorobenzene									
		1,2-Dichloroethane (Ethylene dichloride)									
		1,2-Dichloropropane									
		1,3-Dichlorobenzene									
		1,4-Dichlorobenzene									
		Bromoform									
		Bromomethane									
		Carbon tetrachloride									
		Chlorobenzene									
		Chloroform									
		Chloromethane									
		Cis-1,3-Dichloropropylene									
		Dibromochloromethane									
		Ethylene dibromide									
		Methylene chloride									
		Tetrachloroethylene (Perchloroethylene)									
		Trans-1,2-Dichloroethylene									
		Trans-1,3-Dichloropropylene									
		Trichloroethylene									
		Trichlorofluoromethane									
		Vinyl chloride (Chloroethylene)									

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Effluent from A-I Regenerator				A-II Neutralizer Pit Overflow				Effluent in 72" Line from A-I
		EFFLUENT STREAM TYPE:	Batch				Combined				OTCW
		TOXICITY TEST REQUIRED:	No				No				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Quarterly 60 days				None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Semi-annually 180 days				None
		QUALITY CONTROL MONITORING REQUIRED:	No				No				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED									
17	Volatiles, Non-Halogenated	Benzene									
		Styrene									
		Toluene									
		o-Xylene									
		m-Xylene and p-Xylene									
19	Extractables, Base Neutral	Acenaphthene									
		5-nitro Acenaphthene									
		Acenaphthylene									
		Anthracene									
		Benz(a)anthracene									
		Benzo(a)pyrene									
		Benzo(b)fluoranthene									
		Benzo(g,h,i)perylene									
		Benzo(k)fluoranthene									
		Biphenyl									
		Camphene									
		1-Chloronaphthalene									
		2-Chloronaphthalene									
		Chrysene									
		Dibenz(a,h)anthracene									
		Fluoranthene									
		Fluorene									
		Indeno(1,2,3-cd)pyrene									

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Effluent from A-I Regenerator				A-II Neutralizer Pit Overflow				Effluent in 72" Line from A-I
		EFFLUENT STREAM TYPE:	Batch				Combined				OTCW
		TOXICITY TEST REQUIRED:	No				No				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Quarterly 60 days				None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Semi-annually 180 days				None
		QUALITY CONTROL MONITORING REQUIRED:	No				No				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED									
19	Extractables, Base Neutral (continued)	Indole									
		1-Methylnaphthalene									
		2-Methylnaphthalene									
		Naphthalene									
		Perylene									
		Phenanthrene									
		Pyrene									
		Benzyl butyl phthalate									
		Bis(2-ethylhexyl) phthalate									
		Di-n-butyl phthalate									
		4-Bromophenyl phenyl ether									
		4-Chlorophenyl phenyl ether									
		Bis(2-chloroisopropyl)ether									
		Bis(2-chloroethyl)ether									
		Diphenyl ether									
		2,4-Dinitrotoluene									
		2,6-Dinitrotoluene									
		Bis(2-chloroethoxy)methane									
		Diphenylamine									
		N-Nitrosodiphenylamine									
		N-Nitrosodi-n-propylamine									
25	Solvent Extractables	Oil and grease			XXX				XXX		XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Effluent from A-I Regenerator				A-II Neutralizer Pit Overflow				Effluent in 72" Line from A-I
		EFFLUENT STREAM TYPE:	Batch				Combined				OTCW
		TOXICITY TEST REQUIRED:	No				No				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Quarterly 60 days				None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Semi-annually 180 days				None
		QUALITY CONTROL MONITORING REQUIRED:	No				No				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED									
IC2†	Fluoride	Fluoride									
IC3†	Sulphate	Sulphate			XXX				XXX		

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Effluent in Open Ditch from Ammonia Storage	Plant Final Effluent			
		EFFLUENT STREAM TYPE:	OTCW	Combined			
		TOXICITY TEST REQUIRED:	No	Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	Semi-annually 180 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	Quarterly 60 days			
		QUALITY CONTROL MONITORING REQUIRED:	No	No			
		FREQUENCY OF SAMPLING:	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED					
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX	XXX			
4a	Nitrogen	Ammonia plus Ammonium	XXX				XXX
		Total Kjeldahl nitrogen					XXX
4b		Nitrate + Nitrite					XXX
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX				XXX
5b		Total organic carbon (TOC) (NOTE 1)	XXX				XXX
6	Total phosphorus	Total phosphorus	XXX			XXX	
7	Specific conductance	Specific conductance	XXX	XXX			
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX	XXX			
		Volatile suspended solids (VSS)					
9	Total metals	Aluminum					
		Beryllium					
		Boron					
		Cadmium					
		Chromium					
		Cobalt					

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Effluent in Open Ditch from Ammonia Storage	Plant Final Effluent			
		EFFLUENT STREAM TYPE:	OTCW	Combined			
		TOXICITY TEST REQUIRED:	No	Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	Semi-annually 180 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	Quarterly 60 days			
		QUALITY CONTROL MONITORING REQUIRED:	No	No			
		FREQUENCY OF SAMPLING:	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED					
9	Total metals (continued)	Copper					
		Lead					
		Molybdenum					
		Nickel					
		Silver					
		Strontium					
		Thallium					
		Vanadium					
		Zinc					
10	Hydrides	Antimony	XXX				
		Arsenic	XXX				
		Selenium	XXX				
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)					
12	Mercury	Mercury					
14	Phenolics (4AAP)	Phenolics (4AAP)					
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane					
		1,1,2-Trichloroethane					
		1,1-Dichloroethane					
		1,1-Dichloroethylene					

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Effluent in Open Ditch from Ammonia Storage	Plant Final Effluent			
		EFFLUENT STREAM TYPE:	OTCW	Combined			
		TOXICITY TEST REQUIRED:	No	Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	Semi-annually 180 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	Quarterly 60 days			
		QUALITY CONTROL MONITORING REQUIRED:	No	No			
		FREQUENCY OF SAMPLING:	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED					
16	Volatiles, Halogenated (continued)	1,2-Dichlorobenzene					
		1,2-Dichloroethane (Ethylene dichloride)					
		1,2-Dichloropropane					
		1,3-Dichlorobenzene					
		1,4-Dichlorobenzene					
		Bromoform					
		Bromomethane					
		Carbon tetrachloride					
		Chlorobenzene					
		Chloroform					
		Chloromethane					
		Cis-1,3-Dichloropropylene					
		Dibromochloromethane					
		Ethylene dibromide					
		Methylene chloride					
		Tetrachloroethylene (Perchloroethylene)					
		Trans-1,2-Dichloroethylene					
		Trans-1,3-Dichloropropylene					
		Trichloroethylene					
		Trichlorofluoromethane					
		Vinyl chloride (Chloroethylene)					

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Effluent in Open Ditch from Ammonia Storage	Plant Final Effluent			
		EFFLUENT STREAM TYPE:	OTCW	Combined			
		TOXICITY TEST REQUIRED:	No	Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	None	Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:		180 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	None	Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:		60 days			
		QUALITY CONTROL MONITORING REQUIRED:	No	No			
		FREQUENCY OF SAMPLING:	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED					
17	Volatiles, Non-Halogenated	Benzene					
		Styrene					
		Toluene					
		o-Xylene					
		m-Xylene and p-Xylene					
19	Extractables, Base Neutral	Acenaphthene					
		5-nitro Acenaphthene					
		Acenaphthylene					
		Anthracene					
		Benz(a)anthracene					
		Benzo(a)pyrene					
		Benzo(b)fluoranthene					
		Benzo(g,h,i)perylene					
		Benzo(k)fluoranthene					
		Biphenyl					
		Camphene					
		1-Chlcronaphthalene					
		2-Chloronaphthalene					
		Chrysene					
		Dibenz(a,h)anthracene					
		Fluoranthene					
		Fluorene					
		Indeno(1,2,3-cd)pyrene					

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Effluent in Open Ditch from Ammonia Storage	Plant Final Effluent			
		EFFLUENT STREAM TYPE:	OTCW	Combined			
		TOXICITY TEST REQUIRED:	No	Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	None	Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:		180 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	None	Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:		60 days			
		QUALITY CONTROL MONITORING REQUIRED:	No	No			
		FREQUENCY OF SAMPLING:	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED					
19	Extractables, Base Neutral (continued)	Indole					
		1-Methylnaphthalene					
		2-Methylnaphthalene					
		Naphthalene					
		Perylene					
		Phenanthrene					
		Pyrene					
		Benzyl butyl phthalate					
		Bis(2-ethylhexyl) phthalate					
		Di-n-butyl phthalate					
		4-Bromophenyl phenyl ether					
		4-Chlorophenyl phenyl ether					
		Bis(2-chloroisopropyl)ether					
		Bis(2-chloroethyl)ether					
		Diphenyl ether					
		2,4-Dinitrotoluene					
		2,6-Dinitrotoluene					
		Bis(2-chloroethoxy)methane					
		Diphenylamine					
		N-Nitrosodiphenylamine					
		N-Nitrosodi-n-propylamine					
25	Solvent Extractables	Oil and grease	XXX			XXX	

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE H: LAMBTON WORKS (C-I-L INC.)

		NAME OF EFFLUENT STREAM:	Effluent in Open Ditch from Ammonia Storage	Plant Final Effluent			
		EFFLUENT STREAM TYPE:	OTCW	Combined			
		TOXICITY TEST REQUIRED:	No	Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	Semi-annually 180 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	Quarterly 60 days			
		QUALITY CONTROL MONITORING REQUIRED:	No	No			
		FREQUENCY OF SAMPLING:	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED					
IC2†	Fluoride	Fluoride					
IC3†	Sulphate	Sulphate					

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE I: MAITLAND PLANT (NITROCHEM INC.)

		NAME OF EFFLUENT STREAM:	Final Effluent			
		EFFLUENT STREAM TYPE:	Combined			
		TOXICITY TEST REQUIRED:	Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Monthly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	2 weeks			
		QUALITY CONTROL MONITORING REQUIRED:	Yes			
		FREQUENCY OF SAMPLING:	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX			
4a	Nitrogen	Ammonia plus Ammonium	XXX			
		Total Kjeldahl nitrogen	XXX			
4b		Nitrate + Nitrite	XXX			
5a	Organic carbon	Dissolved organic carbon (DOC)			XXX	
5b		Total organic carbon (TOC) (NOTE 1)			XXX	
6	Total phosphorus	Total phosphorus			XXX	
7	Specific conductance	Specific conductance	XXX			
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX			
		Volatile suspended solids (VSS)				
9	Total metals	Aluminum			XXX	
		Beryllium				XXX
		Boron				XXX
		Cadmium				XXX
		Chromium				XXX
		Cobalt				XXX
		Copper			XXX	

SCHEDULE I: MAITLAND PLANT (NITROCHEM INC.)

		NAME OF EFFLUENT STREAM:	Final Effluent			
		EFFLUENT STREAM TYPE:	Combined			
		TOXICITY TEST REQUIRED:	Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Monthly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	2 weeks			
		QUALITY CONTROL MONITORING REQUIRED:	Yes			
		FREQUENCY OF SAMPLING:	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
9	Total metals (continued)	Lead				XXX
		Molybdenum				XXX
		Nickel				XXX
		Silver				XXX
		Strontium				XXX
		Thallium				XXX
		Vanadium			XXX	
		Zinc			XXX	
10	Hydrides	Antimony				XXX
		Arsenic			XXX	
		Selenium			XXX	
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)				XXX
12	Mercury	Mercury			XXX	
14	Phenolics (4AAP)	Phenolics (4AAP)			XXX	
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane				XXX
		1,1,2-Trichloroethane				XXX
		1,1-Dichloroethane			XXX	
		1,1-Dichloroethylene			XXX	
		1,2-Dichlorobenzene				XXX
		1,2-Dichloroethane (Ethylene dichloride)				XXX

SCHEDULE I: MAITLAND PLANT (NITROCHEM INC.)

		NAME OF EFFLUENT STREAM:	Final Effluent			
		EFFLUENT STREAM TYPE:	Combined			
		TOXICITY TEST REQUIRED:	Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Monthly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	2 weeks			
		QUALITY CONTROL MONITORING REQUIRED:	Yes			
		FREQUENCY OF SAMPLING:	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
16	Volatiles, Halogenated (continued)	1,2-Dichloropropane				XXX
		1,3-Dichlorobenzene				XXX
		1,4-Dichlorobenzene			XXX	
		Bromoform				XXX
		Bromomethane				XXX
		Carbon tetrachloride			XXX	
		Chlorobenzene				XXX
		Chloroform			XXX	
		Chloromethane				XXX
		Cis-1,3-Dichloropropylene				XXX
		Dibromochloromethane				XXX
		Ethylene dibromide				XXX
		Methylene chloride				XXX
		Tetrachloroethylene (Perchloroethylene)			XXX	
		Trans-1,2-Dichloroethylene				XXX
		Trans-1,3-Dichloropropylene				XXX
		Trichloroethylene			XXX	
		Trichlorofluoromethane				XXX
		Vinyl chloride (Chloroethylene)				XXX
17	Volatiles, Non-Halogenated	Benzene				XXX
		Styrene				XXX
		Toluene				XXX
		o-Xylene				XXX
		m-Xylene and p-Xylene				XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE I: MAITLAND PLANT (NITROCHEM INC.)

		NAME OF EFFLUENT STREAM:	Final Effluent			
		EFFLUENT STREAM TYPE:	Combined			
		TOXICITY TEST REQUIRED:	Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Monthly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	2 weeks			
		QUALITY CONTROL MONITORING REQUIRED:	Yes			
		FREQUENCY OF SAMPLING:	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
19	Extractables, Base Neutral	Acenaphthene				XXX
		5-nitro Acenaphthene				XXX
		Acenaphthylene				XXX
		Anthracene				XXX
		Benz(a)anthracene				XXX
		Benzo(a)pyrene				XXX
		Benzo(b)fluoranthene				XXX
		Benzo(g,h,i)perylene				XXX
		Benzo(k)fluoranthene				XXX
		Biphenyl				XXX
		Camphene				XXX
		1-Chloronaphthalene				XXX
		2-Chloronaphthalene				XXX
		Chrysene				XXX
		Dibenz(a,h)anthracene				XXX
		Fluoranthene				XXX
		Fluorene				XXX
		Indeno(1,2,3-cd)pyrene				XXX
		Indole				XXX
		1-Methylnaphthalene				XXX
		2-Methylnaphthalene				XXX
		Naphthalene				XXX
		Perylene				XXX
		Phenanthrene				XXX
		Pyrene				XXX

SCHEDULE I: MAITLAND PLANT (NITROCHEM INC.)

		NAME OF EFFLUENT STREAM:	Final Effluent			
		EFFLUENT STREAM TYPE:	Combined			
		TOXICITY TEST REQUIRED:	Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Monthly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	2 weeks			
		QUALITY CONTROL MONITORING REQUIRED:	Yes			
		FREQUENCY OF SAMPLING:	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
19	Extractables, Base Neutral (continued)	Benzyl butyl phthalate				XXX
		Bis(2-ethylhexyl) phthalate				XXX
		Di-n-butyl phthalate				XXX
		4-Bromophenyl phenyl ether				XXX
		4-Chlorophenyl phenyl ether				XXX
		Bis(2-chloroisopropyl)ether				XXX
		Bis(2-chloroethyl)ether				XXX
		Diphenyl ether				XXX
		2,4-Dinitrotoluene				XXX
		2,6-Dinitrotoluene				XXX
		Bis(2-chloroethoxy)methane				XXX
		Diphenylamine				XXX
		N-Nitrosodiphenylamine				XXX
		N-Nitrosodi-n-propylamine				XXX
20	Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol				XXX
		2,3,4,6-Tetrachlorophenol				XXX
		2,3,5,6-Tetrachlorophenol				XXX
		2,3,4-Trichlorophenol				XXX
		2,3,5-Trichlorophenol				XXX
		2,4,5-Trichlorophenol				XXX
		2,4,6-Trichlorophenol				XXX
		2,4-Dimethyl phenol				XXX
		2,4-Dinitrophenol				XXX
		2,4-Dichlorophenol				XXX

SCHEDULE I: MAITLAND PLANT (NITROCHEM INC.)

		NAME OF EFFLUENT STREAM:	Final Effluent			
		EFFLUENT STREAM TYPE:	Combined			
		TOXICITY TEST REQUIRED:	Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Monthly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	2 weeks			
		QUALITY CONTROL MONITORING REQUIRED:	Yes			
		FREQUENCY OF SAMPLING:	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
20	Extractables, Acid (Phenolics) (continued)	2,6-Dichlorophenol				XXX
		4,6-Dinitro-o-cresol				XXX
		2-Chlorophenol				XXX
		4-Chloro-3-methylphenol				XXX
		4-Nitrophenol				XXX
		m-Cresol				XXX
		o-Cresol				XXX
		p-Cresol				XXX
		Pentachlorophenol				XXX
		Phenol			XXX	
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene				XXX
		1,2,3,5-Tetrachlorobenzene				XXX
		1,2,4,5-Tetrachlorobenzene				XXX
		1,2,3-Trichlorobenzene				XXX
		1,2,4-Trichlorobenzene				XXX
		2,4,5-Trichlorotoluene				XXX
		Hexachlorobenzene				XXX
		Hexachlorobutadiene				XXX
		Hexachlorocyclopentadiene				XXX
		Hexachloroethane				XXX
		Octachlorostyrene				XXX
		Pentachlorobenzene				XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE I: MAITLAND PLANT (NITROCHEM INC.)

		NAME OF EFFLUENT STREAM:	Final Effluent			
		EFFLUENT STREAM TYPE:	Combined			
		TOXICITY TEST REQUIRED:	Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Quarterly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	60 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Monthly			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	2 weeks			
		QUALITY CONTROL MONITORING REQUIRED:	Yes			
		FREQUENCY OF SAMPLING:	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin				XXX
		Octachlorodibenzo-p-dioxin				XXX
		Octachlorodibenzofuran				XXX
		Total heptachlorinated dibenzo-p-dioxins				XXX
		Total heptachlorinated dibenzofurans				XXX
		Total hexachlorinated dibenzo-p-dioxins				XXX
		Total hexachlorinated dibenzofurans				XXX
		Total pentachlorinated dibenzo-p-dioxins				XXX
		Total pentachlorinated dibenzofurans				XXX
		Total tetrachlorinated dibenzo-p-dioxins				XXX
		Total tetrachlorinated dibenzofurans				XXX
25	Solvent Extractables	Oil and grease			XXX	
27	Polychlorinated Biphenyls	PCBs (Total)			XXX	

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE J: NIAGARA PLANT (CYANAMID CANADA INC.)

		NAME OF EFFLUENT STREAM:	Final Effluent to Whitty Creek				Effluent to Hydro Canal			
		EFFLUENT STREAM TYPE:	Combined				Combined			
		TOXICITY TEST REQUIRED:	Yes				Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Semi-annually				Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				180 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually				Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				180 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED								
2	Total cyanide	Total cyanide		XXX				XXX		
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX				XXX			
4a	Nitrogen	Ammonia plus Ammonium				XXX				XXX
		Total Kjeldahl nitrogen				XXX				XXX
4b		Nitrate + Nitrite			XXX					XXX
5a	Organic carbon	Dissolved organic carbon (DOC)			XXX				XXX	
5b		Total organic carbon (TOC) (NOTE 1)			XXX				XXX	
6	Total phosphorus	Total phosphorus			XXX				XXX	
7	Specific conductance	Specific conductance	XXX				XXX			
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX				XXX			
		Volatile suspended solids (VSS)								
9	Total metals	Aluminum				XXX				XXX
		Beryllium				XXX				XXX
		Boron				XXX				XXX
		Cadmium				XXX				XXX
		Chromium				XXX				XXX

SCHEDULE J: NIAGARA PLANT (CYANAMID CANADA INC.)

		NAME OF EFFLUENT STREAM:	Final Effluent to Whitty Creek				Effluent to Hydro Canal			
		EFFLUENT STREAM TYPE:	Combined				Combined			
		TOXICITY TEST REQUIRED:	Yes				Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Semi-annually				Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				180 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually				Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				180 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED								
9	Total metals (continued)	Cobalt				XXX				XXX
		Copper				XXX				XXX
		Lead				XXX				XXX
		Molybdenum				XXX				XXX
		Nickel				XXX				XXX
		Silver				XXX				XXX
		Strontium				XXX				XXX
		Thallium				XXX				XXX
		Vanadium				XXX				XXX
		Zinc				XXX				XXX
10	Hydrides	Antimony				XXX				XXX
		Arsenic				XXX				XXX
		Selenium				XXX				XXX
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)				XXX				XXX
12	Mercury	Mercury			XXX					XXX
14	Phenolics (4AAP)	Phenolics (4AAP)				XXX				XXX
19	Extractables, Base Neutral	Acenaphthene				XXX				XXX
		5-nitro Acenaphthene				XXX				XXX
		Acenaphthylene				XXX				XXX
		Anthracene				XXX				XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE J: NIAGARA PLANT (CYANAMID CANADA INC.)

		NAME OF EFFLUENT STREAM:	Final Effluent to Whitty Creek				Effluent to Hydro Canal			
		EFFLUENT STREAM TYPE:	Combined				Combined			
		TOXICITY TEST REQUIRED:	Yes				Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Semi-annually 180 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Semi-annually 180 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED								
19	Extractables, Base Neutral (continued)	Benz(a)anthracene				XXX				XXX
		Benzo(a)pyrene				XXX				XXX
		Benzo(b)fluoranthene				XXX				XXX
		Benzo(g,h,i)perylene				XXX				XXX
		Benzo(k)fluoranthene				XXX				XXX
		Biphenyl				XXX				XXX
		Camphene				XXX				XXX
		1-Chloronaphthalene				XXX				XXX
		2-Chloronaphthalene				XXX				XXX
		Chrysene				XXX				XXX
		Dibenz(a,h)anthracene				XXX				XXX
		Fluoranthene				XXX				XXX
		Fluorene				XXX				XXX
		Indeno(1,2,3-cd)pyrene				XXX				XXX
		Indole				XXX				XXX
		1-Methylnaphthalene				XXX				XXX
		2-Methylnaphthalene				XXX				XXX
		Naphthalene				XXX				XXX
		Perylene				XXX				XXX
		Phenanthrene				XXX				XXX
		Pyrene				XXX				XXX
		Benzyl butyl phthalate								
		Bis(2-ethylhexyl) phthalate								
		Di-n-butyl phthalate								
		4-Bromophenyl phenyl ether								

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE J: NIAGARA PLANT (CYANAMID CANADA INC.)

		NAME OF EFFLUENT STREAM:	Final Effluent to Whitty Creek				Effluent to Hydro Canal			
		EFFLUENT STREAM TYPE:	Combined				Combined			
		TOXICITY TEST REQUIRED:	Yes				Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Semi-annually				Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				180 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually				Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				180 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED								
19	Extractables, Base Neutral (continued)	4-Chlorophenyl phenyl ether								
		Bis(2-chloroisopropyl)ether								
		Bis(2-chloroethyl)ether								
		Diphenyl ether								
		2,4-Dinitrotoluene								
		2,6-Dinitrotoluene								
		Bis(2-chloroethoxy)methane								
		Diphenylamine								
		N-Nitrosodiphenylamine								
		N-Nitrosodi-n-propylamine								
25	Solvent Extractables	Oil and grease			XXX				XXX	

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE K: NIAGARA FALLS PLANT (WASHINGTON MILLS ELECTRO MINERALS CORPORATION)

		NAME OF EFFLUENT STREAM:	Effluent from Queen Lagoon				Effluent from Old Lagoon				21" to Pell Creek	18" to Stanley Ave. Sewer
		EFFLUENT STREAM TYPE:	Combined				Combined				Storm	Storm
		TOXICITY TEST REQUIRED:	Yes				Yes				No	No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Semi-annually 180 days				None	None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Semi-annually 180 days				None	None
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No				No	No
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED										
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX				XXX				XXX	XXX
5a	Organic carbon	Dissolved organic carbon (DOC)			XXX				XXX		XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)			XXX				XXX		XXX	XXX
6	Total phosphorus	Total phosphorus			XXX				XXX		XXX	XXX
7	Specific conductance	Specific conductance	XXX				XXX				XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX				XXX				XXX	XXX
		Volatile suspended solids (VSS)										
9	Total metals	Aluminum			XXX				XXX		XXX	XXX
		Beryllium				XXX				XXX	XXX	XXX
		Boron				XXX				XXX	XXX	XXX
		Cadmium				XXX				XXX	XXX	XXX
		Chromium			XXX				XXX		XXX	XXX
		Cobalt				XXX				XXX	XXX	XXX
		Copper				XXX				XXX	XXX	XXX
		Lead				XXX				XXX	XXX	XXX
		Molybdenum				XXX				XXX	XXX	XXX
		Nickel				XXX				XXX	XXX	XXX
		Silver				XXX				XXX	XXX	XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE K: NIAGARA FALLS PLANT (WASHINGTON MILLS ELECTRO MINERALS CORPORATION)

		NAME OF EFFLUENT STREAM:	Effluent from Queen Lagoon				Effluent from Old Lagoon				21" to Pell Creek	18" to Stanley Ave. Sewer
		EFFLUENT STREAM TYPE:	Combined				Combined				Storm	Storm
		TOXICITY TEST REQUIRED:	Yes				Yes				No	No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Semi-annually 180 days				None	None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Semi-annually 180 days				None	None
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No				No	No
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED										
9	Total metals (continued)	Strontium				XXX				XXX	XXX	XXX
		Thallium				XXX				XXX	XXX	XXX
		Vanadium				XXX				XXX	XXX	XXX
		Zinc			XXX				XXX		XXX	XXX
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)			XXX				XXX		XXX	XXX
14	Phenolics (4AAP)	Phenolics (4AAP)				XXX				XXX		
25	Solvent Extractables	Oil and grease			XXX				XXX		XXX	XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE K: NIAGARA FALLS PLANT (WASHINGTON MILLS ELECTRO MINERALS CORPORATION)

			10" at Manhole #1	12" from Fesic Building	12" from South Storage Building
		NAME OF EFFLUENT STREAM:	10" at Manhole #1	12" from Fesic Building	12" from South Storage Building
		EFFLUENT STREAM TYPE:	Storm	Storm	Storm
		TOXICITY TEST REQUIRED:	No	No	No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	None	None	None
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	None	None	None
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:			
		QUALITY CONTROL MONITORING REQUIRED:	No	No	No
		FREQUENCY OF SAMPLING:	M	M	M
ANALYTICAL TEST GROUP		**PARAMETERS TO BE ANALYZED**			
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX	XXX	XXX
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX	XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)	XXX	XXX	XXX
6	Total phosphorus	Total phosphorus	XXX	XXX	XXX
7	Specific conductance	Specific conductance	XXX	XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX	XXX	XXX
		Volatile suspended solids (VSS)			
9	Total metals	Aluminum	XXX	XXX	XXX
		Beryllium	XXX	XXX	XXX
		Boron	XXX	XXX	XXX
		Cadmium	XXX	XXX	XXX
		Chromium	XXX	XXX	XXX
		Cobalt	XXX	XXX	XXX
		Copper	XXX	XXX	XXX
		Lead	XXX	XXX	XXX
		Molybdenum	XXX	XXX	XXX
		Nickel	XXX	XXX	XXX
		Silver	XXX	XXX	XXX

SCHEDULE K: NIAGARA FALLS PLANT (WASHINGTON MILLS ELECTRO MINERALS CORPORATION)

			10" at Manhole #1	12" from Fesic Building	12" from South Storage Building
NAME OF EFFLUENT STREAM:			10" at Manhole #1	12" from Fesic Building	12" from South Storage Building
EFFLUENT STREAM TYPE:			Storm	Storm	Storm
TOXICITY TEST REQUIRED:			No	No	No
CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:			None	None	None
CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:			None	None	None
QUALITY CONTROL MONITORING REQUIRED:			No	No	No
FREQUENCY OF SAMPLING:			M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED			
9	Total metals (continued)	Strontium	XXX	XXX	XXX
		Thallium	XXX	XXX	XXX
		Vanadium	XXX	XXX	XXX
		Zinc	XXX	XXX	XXX
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)	XXX	XXX	XXX
14	Phenolics (4AAP)	Phenolics (4AAP)			
25	Solvent Extractables	Oil and grease	XXX	XXX	XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE L: NIAGARA FALLS PLANT (WASHINGTON MILLS LIMITED)

			Final Effluent				Storm Water Effluent
		NAME OF EFFLUENT STREAM:	Final Effluent				Storm Water Effluent
		EFFLUENT STREAM TYPE:	Combined				Storm
		TOXICITY TEST REQUIRED:	Yes				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Semi-annually				None
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually				None
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED					
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX				XXX
5a	Organic carbon	Dissolved organic carbon (DOC)			XXX		XXX
5b		Total organic carbon (TOC) (NOTE 1)			XXX		XXX
6	Total phosphorus	Total phosphorus			XXX		XXX
7	Specific conductance	Specific conductance	XXX				XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX				XXX
		Volatile suspended solids (VSS)					
9	Total metals	Aluminum			XXX		XXX
		Beryllium				XXX	XXX
		Boron				XXX	XXX
		Cadmium				XXX	XXX
		Chromium				XXX	XXX
		Cobalt				XXX	XXX
		Copper				XXX	XXX
		Lead				XXX	XXX
		Molybdenum				XXX	XXX
		Nickel				XXX	XXX
		Silver				XXX	XXX
		Strontium				XXX	XXX

SCHEDULE L: NIAGARA FALLS PLANT (WASHINGTON MILLS LIMITED)

		NAME OF EFFLUENT STREAM:	Final Effluent				Storm Water Effluent
		EFFLUENT STREAM TYPE:	Combined				Storm
		TOXICITY TEST REQUIRED:	Yes				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED					
9	Total metals (continued)	Thallium				XXX	XXX
		Vanadium				XXX	XXX
		Zinc				XXX	XXX
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)				XXX	XXX
25	Solvent Extractables	Oil and grease			XXX		XXX
IC1†	Chloride	Chloride		XXX			
IC3†	Sulphate	Sulphate		XXX			

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE M: NIPISSING SITE (ETI EXPLOSIVES TECHNOLOGIES INTERNATIONAL (CANADA) LTD.)

		NAME OF EFFLUENT STREAM:	Discharge at Weir	Effluent in West Storm Ditch	Effluent in Cooks Creek	Effluent in Beaver Pond Ditch
		EFFLUENT STREAM TYPE:	OTCW	Storm	Storm	Storm
		TOXICITY TEST REQUIRED:	Yes	No	No	No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None	None	None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None	None	None
		QUALITY CONTROL MONITORING REQUIRED:	No	No	No	No
		FREQUENCY OF SAMPLING:	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX	XXX	XXX	XXX
4a	Nitrogen	Ammonia plus Ammonium	XXX	XXX	XXX	XXX
		Total Kjeldahl nitrogen	XXX	XXX	XXX	XXX
4b		Nitrate + Nitrite	XXX	XXX	XXX	XXX
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX	XXX	XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)	XXX	XXX	XXX	XXX
6	Total phosphorus	Total phosphorus	XXX	XXX	XXX	XXX
7	Specific conductance	Specific conductance	XXX	XXX	XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX	XXX	XXX	XXX
		Volatile suspended solids (VSS)				

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE M: NIPISSING SITE (ETI EXPLOSIVES TECHNOLOGIES INTERNATIONAL (CANADA) LTD.)

		NAME OF EFFLUENT STREAM:	Discharge at Weir	Effluent in West Storm Ditch	Effluent in Cooks Creek	Effluent in Beaver Pond Ditch
		EFFLUENT STREAM TYPE:	OTCW	Storm	Storm	Storm
		TOXICITY TEST REQUIRED:	Yes	No	No	No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None	None	None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None	None	None
		QUALITY CONTROL MONITORING REQUIRED:	No	No	No	No
		FREQUENCY OF SAMPLING:	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
9	Total metals	Aluminum	XXX	XXX	XXX	
		Beryllium	XXX	XXX	XXX	
		Boron	XXX	XXX	XXX	
		Cadmium	XXX	XXX	XXX	
		Chromium	XXX	XXX	XXX	
		Cobalt	XXX	XXX	XXX	
		Copper	XXX	XXX	XXX	
		Lead	XXX	XXX	XXX	
		Molybdenum	XXX	XXX	XXX	
		Nickel	XXX	XXX	XXX	
		Silver	XXX	XXX	XXX	
		Strontium	XXX	XXX	XXX	
		Thallium	XXX	XXX	XXX	
		Vanadium	XXX	XXX	XXX	
		Zinc	XXX	XXX	XXX	
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)	XXX	XXX	XXX	XXX
25	Solvent Extractables	Oil and grease	XXX	XXX	XXX	XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE N: PORT MAITLAND PLANT (ALBRIGHT & WILSON AMERICAS INC.)

		NAME OF EFFLUENT STREAM:	Final Discharge				Storm Culvert #1	Siddall Road Storm Ditch
		EFFLUENT STREAM TYPE:	Combined				Storm	Storm
		TOXICITY TEST REQUIRED:	Yes				No	No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None	None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None	None
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No	No
		FREQUENCY OF SAMPLING:	D	TW	W	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED						
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX				XXX	XXX
4a	Nitrogen	Ammonia plus Ammonium				XXX	XXX	XXX
		Total Kjeldahl nitrogen				XXX	XXX	XXX
4b		Nitrate + Nitrite				XXX	XXX	XXX
5a	Organic carbon	Dissolved organic carbon (DOC)			XXX		XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)			XXX		XXX	XXX
6	Total phosphorus	Total phosphorus	XXX				XXX	XXX
7	Specific conductance	Specific conductance	XXX				XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX				XXX	XXX
		Volatile suspended solids (VSS)						
9	Total metals	Aluminum			XXX		XXX	XXX
		Beryllium				XXX	XXX	XXX
		Boron				XXX	XXX	XXX
		Cadmium				XXX	XXX	XXX
		Chromium				XXX	XXX	XXX
		Cobalt				XXX	XXX	XXX
		Copper				XXX	XXX	XXX

SCHEDULE N: PORT MAITLAND PLANT (ALBRIGHT & WILSON AMERICAS INC.)

		NAME OF EFFLUENT STREAM:	Final Discharge				Storm Culvert #1	Siddall Road Storm Ditch
		EFFLUENT STREAM TYPE:	Combined				Storm	Storm
		TOXICITY TEST REQUIRED:	Yes				No	No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None	None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None	None
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No	No
		FREQUENCY OF SAMPLING:	D	TW	W	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED						
9	Total Metals (continued)	Lead				XXX	XXX	XXX
		Molybdenum				XXX	XXX	XXX
		Nickel				XXX	XXX	XXX
		Strontium				XXX	XXX	XXX
		Silver				XXX	XXX	XXX
		Thallium				XXX	XXX	XXX
		Vanadium				XXX	XXX	XXX
		Zinc				XXX	XXX	XXX
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)				XXX	XXX	XXX
12	Mercury	Mercury			XXX		XXX	XXX
14	Phenolics (4AAP)	Phenolics (4AAP)				XXX	XXX	XXX
25	Solvent Extractables	Oil and grease			XXX		XXX	XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE O: PORT MAITLAND PLANT (INTERNATIONAL MINERALS AND CHEMICALS COMPANY (CANADA) LTD.)

		NAME OF EFFLUENT STREAM:	Final Effluent			
		EFFLUENT STREAM TYPE:	Combined			
		TOXICITY TEST REQUIRED:	Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes			
		FREQUENCY OF SAMPLING:	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX			
4a	Nitrogen	Ammonia plus Ammonium			XXX	
		Total Kjeldahl nitrogen			XXX	
4b		Nitrate + Nitrite			XXX	
5a	Organic carbon	Dissolved organic carbon (DOC)				XXX
5b		Total organic carbon (TOC) (NOTE 1)				XXX
6	Total phosphorus	Total phosphorus	XXX			
7	Specific conductance	Specific conductance	XXX			
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX			
		Volatile suspended solids (VSS)				
9	Total metals	Aluminum			XXX	
		Beryllium				XXX
		Boron				XXX
		Cadmium				XXX
		Chromium				XXX
		Cobalt				XXX
		Copper				XXX

SCHEDULE O: PORT MAITLAND PLANT (INTERNATIONAL MINERALS AND CHEMICALS COMPANY (CANADA) LTD.)

		NAME OF EFFLUENT STREAM:	Final Effluent			
		EFFLUENT STREAM TYPE:	Combined			
		TOXICITY TEST REQUIRED:	Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes			
		FREQUENCY OF SAMPLING:	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
9	Total metals (continued)	Lead				XXX
		Molybdenum				XXX
		Nickel				XXX
		Silver				XXX
		Strontium				XXX
		Thallium				XXX
		Vanadium				XXX
		Zinc			XXX	
10	Hydrides	Antimony				XXX
		Arsenic				XXX
		Selenium				XXX
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)				XXX
12	Mercury	Mercury				XXX
14	Phenolics (4AAP)	Phenolics (4AAP)				XXX
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane				XXX
		1,1,2-Trichloroethane				XXX
		1,1-Dichloroethane				XXX
		1,1-Dichloroethylene				XXX
		1,2-Dichlorobenzene				XXX
		1,2-Dichloroethane (Ethylene dichloride)				XXX

SCHEDULE O: PORT MAITLAND PLANT (INTERNATIONAL MINERALS AND CHEMICALS COMPANY (CANADA) LTD.)

		NAME OF EFFLUENT STREAM:	Final Effluent			
		EFFLUENT STREAM TYPE:	Combined			
		TOXICITY TEST REQUIRED:	Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes			
		FREQUENCY OF SAMPLING:	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
16	Volatiles, Halogenated (continued)	1,2-Dichloropropane				XXX
		1,3-Dichlorobenzene				XXX
		1,4-Dichlorobenzene				XXX
		Bromoform				XXX
		Bromomethane				XXX
		Carbon tetrachloride				XXX
		Chlorobenzene				XXX
		Chloroform				XXX
		Chloromethane				XXX
		Cis-1,3-Dichloropropylene				XXX
		Dibromochloromethane				XXX
		Ethylene dibromide				XXX
		Methylene chloride				XXX
		Tetrachloroethylene (Perchloroethylene)				XXX
		Trans-1,2-Dichloroethylene				XXX
		Trans-1,3-Dichloropropylene				XXX
		Trichloroethylene				XXX
		Trichlorofluoromethane				XXX
		Vinyl chloride (Chloroethylene)				XXX
17	Volatiles, Non-Halogenated	Benzene				XXX
		Styrene				XXX
		Toluene				XXX
		o-Xylene				XXX
		m-Xylene and p-Xylene				XXX

SCHEDULE O: PORT MAITLAND PLANT (INTERNATIONAL MINERALS AND CHEMICALS COMPANY (CANADA) LTD.)

		NAME OF EFFLUENT STREAM:	Final Effluent			
		EFFLUENT STREAM TYPE:	Combined			
		TOXICITY TEST REQUIRED:	Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes			
		FREQUENCY OF SAMPLING:	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
19	Extractables, Base Neutral	Acenaphthene				
		5-nitro Acenaphthene				
		Acenaphthylene				
		Anthracene				
		Benz(a)anthracene				
		Benzo(a)pyrene				
		Benzo(b)fluoranthene				
		Benzo(g,h,i)perylene				
		Benzo(k)fluoranthene				
		Biphenyl				
		Camphene				
		1-Chloronaphthalene				
		2-Chloronaphthalene				
		Chrysene				
		Dibenz(a,h)anthracene				
		Fluoranthene				
		Fluorene				
		Indeno(1,2,3-cd)pyrene				
		Indole				
		1-Methylnaphthalene				
		2-Methylnaphthalene				
		Naphthalene				
		Perylene				
		Phenanthrene				
		Pyrene				

SCHEDULE O: PORT MAITLAND PLANT (INTERNATIONAL MINERALS AND CHEMICALS COMPANY (CANADA) LTD.)

		NAME OF EFFLUENT STREAM:	Final Effluent			
		EFFLUENT STREAM TYPE:	Combined			
		TOXICITY TEST REQUIRED:	Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes			
		FREQUENCY OF SAMPLING:	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
19	Extractables, Base Neutral (continued)	Benzyl butyl phthalate				XXX
		Bis(2-ethylhexyl) phthalate				XXX
		Di-n-butyl phthalate				XXX
		4-Bromophenyl phenyl ether				XXX
		4-Chlorophenyl phenyl ether				XXX
		Bis(2-chloroisopropyl)ether				XXX
		Bis(2-chloroethyl)ether				XXX
		Diphenyl ether				XXX
		2,4-Dinitrotoluene				XXX
		2,6-Dinitrotoluene				XXX
		Bis(2-chloroethoxy)methane				XXX
		Diphenylamine				XXX
		N-Nitrosodiphenylamine				XXX
		N-Nitrosodi-n-propylamine				XXX
20	Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol				XXX
		2,3,4,6-Tetrachlorophenol				XXX
		2,3,5,6-Tetrachlorophenol				XXX
		2,3,4-Trichlorophenol				XXX
		2,3,5-Trichlorophenol				XXX
		2,4,5-Trichlorophenol				XXX
		2,4,6-Trichlorophenol				XXX
		2,4-Dimethyl phenol				XXX
		2,4-Dinitrophenol				XXX
		2,4-Dichlorophenol				XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE O: PORT MAITLAND PLANT (INTERNATIONAL MINERALS AND CHEMICALS COMPANY (CANADA) LTD.)

		NAME OF EFFLUENT STREAM:	Final Effluent			
		EFFLUENT STREAM TYPE:	Combined			
		TOXICITY TEST REQUIRED:	Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes			
		FREQUENCY OF SAMPLING:	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
20	Extractables, Acid (Phenolics) (continued)	2,6-Dichlorophenol				XXX
		4,6-Dinitro-o-cresol				XXX
		2-Chlorophenol				XXX
		4-Chloro-3-methylphenol				XXX
		4-Nitrophenol				XXX
		m-Cresol				XXX
		o-Cresol				XXX
		p-Cresol				XXX
		Pentachlorophenol				XXX
		Phenol				XXX
25	Solvent Extractables	Oil and grease			XXX	
IC2†	Fluoride	Fluoride	XXX			
IC3†	Sulphate	Sulphate		XXX		

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE P: SARNIA PLANT (CABOT CANADA LTD.)

		NAME OF EFFLUENT STREAM:	Discharge from Filter Bed				Pump Station near Kenny Street
		EFFLUENT STREAM TYPE:	Combined				Emergency Overflow
		TOXICITY TEST REQUIRED:	Yes				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	at time of discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED					
2	Total cyanide	Total cyanide			XXX		XXX
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX				XXX
4a	Nitrogen	Ammonia plus Ammonium			XXX		XXX
		Total Kjeldahl nitrogen			XXX		XXX
4b		Nitrate + Nitrite			XXX		XXX
5a	Organic carbon	Dissolved organic carbon (DOC)			XXX		XXX
5b		Total organic carbon (TOC) (NOTE 1)			XXX		XXX
6	Total phosphorus	Total phosphorus			XXX		XXX
7	Specific conductance	Specific conductance	XXX				XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX				XXX
		Volatile suspended solids (VSS)					
9	Total metals	Aluminum			XXX		XXX
		Beryllium				XXX	XXX
		Boron				XXX	XXX
		Cadmium				XXX	XXX
		Chromium			XXX		XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE P: SARNIA PLANT (CABOT CANADA LTD.)

		NAME OF EFFLUENT STREAM:	Discharge from Filter Bed				Pump Station near Kenny Street
		EFFLUENT STREAM TYPE:	Combined				Emergency Overflow
		TOXICITY TEST REQUIRED:	Yes				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	at time of discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED					
9	Total metals (continued)	Cobalt				XXX	XXX
		Copper				XXX	XXX
		Lead				XXX	XXX
		Molybdenum				XXX	XXX
		Nickel				XXX	XXX
		Silver				XXX	XXX
		Strontium				XXX	XXX
		Thallium				XXX	XXX
		Vanadium				XXX	XXX
		Zinc		XXX			XXX
10	Hydrides	Antimony			XXX		XXX
		Arsenic				XXX	XXX
		Selenium				XXX	XXX
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)			XXX		XXX
19	Extractables, Base Neutral	Acenaphthene					
		5-nitro Acenaphthene					
		Acenaphthylene					
		Anthracene					
		Benz(a)anthracene					
		Benzo(a)pyrene					
		Benzo(b)fluoranthene					
		Benzo(g,h,i)perylene					

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE P: SARNIA PLANT (CABOT CANADA LTD.)

		NAME OF EFFLUENT STREAM:	Discharge from Filter Bed				Pump Station near Kenny Street
		EFFLUENT STREAM TYPE:	Combined				Emergency Overflow
		TOXICITY TEST REQUIRED:	Yes				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Semi-annually				None
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually				None
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	at time of discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED					
19	Extractables, Base Neutral (continued)	Benzo(k)fluoranthene					
		Biphenyl					
		Camphene					
		1-Chloronaphthalene					
		2-Chloronaphthalene					
		Chrysene					
		Dibenz(a,h)anthracene					
		Fluoranthene					
		Fluorene					
		Indeno(1,2,3-cd)pyrene					
		Indole					
		1-Methylnaphthalene					
		2-Methylnaphthalene					
		Naphthalene					
		Perylene					
		Phenanthrene					
		Pyrene					
		Benzyl butyl phthalate				XXX	XXX
		Bis(2-ethylhexyl) phthalate				XXX	XXX
		Di-n-butyl phthalate				XXX	XXX
		4-Bromophenyl phenyl ether				XXX	XXX
		4-Chlorophenyl phenyl ether				XXX	XXX
		Bis(2-chloroisopropyl)ether				XXX	XXX
		Bis(2-chloroethyl)ether				XXX	XXX
		Diphenyl ether				XXX	XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE P: SARNIA PLANT (CABOT CANADA LTD.)

		NAME OF EFFLUENT STREAM:	Discharge from Filter Bed				Pump Station near Kenny Street
		EFFLUENT STREAM TYPE:	Combined				Emergency Overflow
		TOXICITY TEST REQUIRED:	Yes				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	at time of discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED					
19	Extractables, Base Neutral (continued)	2,4-Dinitrotoluene				XXX	XXX
		2,6-Dinitrotoluene				XXX	XXX
		Bis(2-chloroethoxy)methane				XXX	XXX
		Diphenylamine				XXX	XXX
		N-Nitrosodiphenylamine				XXX	XXX
		N-Nitrosodi-n-propylamine				XXX	XXX
25	Solvent Extractables	Oil and grease			XXX		XXX
IC1†	Chloride	Chloride		XXX			XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE Q: SARNIA PLANT (FIBERGLAS CANADA INC.)

		NAME OF EFFLUENT STREAM:	Main Effluent to Cole Drain				Scott Road Landfill
		EFFLUENT STREAM TYPE:	Combined				Emergency Overflow
		TOXICITY TEST REQUIRED:	Yes				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				None
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	at time of discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED					
2	Total cyanide	Total cyanide			XXX		XXX
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX				XXX
4a	Nitrogen	Ammonia plus Ammonium			XXX		XXX
		Total Kjeldahl nitrogen			XXX		XXX
4b		Nitrate + Nitrite			XXX		XXX
5a	Organic carbon	Dissolved organic carbon (DOC)		XXX			XXX
5b		Total organic carbon (TOC) (NOTE 1)		XXX			XXX
6	Total phosphorus	Total phosphorus			XXX		XXX
7	Specific conductance	Specific conductance	XXX				XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX				XXX
		Volatile suspended solids (VSS)					

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE Q: SARNIA PLANT (FIBERGLAS CANADA INC.)

		NAME OF EFFLUENT STREAM:	Main Effluent to Cole Drain				Scott Road Landfill
		EFFLUENT STREAM TYPE:	Combined				Emergency Overflow
		TOXICITY TEST REQUIRED:	Yes				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Semi-annually				None
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually				None
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	at time of discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED					
9	Total metals	Aluminum				XXX	XXX
		Beryllium				XXX	XXX
		Boron				XXX	XXX
		Cadmium				XXX	XXX
		Chromium				XXX	XXX
		Cobalt				XXX	XXX
		Copper				XXX	XXX
		Lead				XXX	XXX
		Molybdenum				XXX	XXX
		Nickel				XXX	XXX
		Silver				XXX	XXX
		Strontium				XXX	XXX
		Thallium				XXX	XXX
		Vanadium				XXX	XXX
		Zinc				XXX	XXX
10	Hydrides	Antimony			XXX		XXX
		Arsenic				XXX	XXX
		Selenium				XXX	XXX
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)				XXX	XXX
14	Phenolics (4AAP)	Phenolics (4AAP)	XXX				XXX
25	Solvent Extractables	Oil and grease			XXX		XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE R: SARNIA PLANT (PARTEK INSULATIONS LTD.)

		NAME OF EFFLUENT STREAM:	Effluent in East Storm Drain	Effluent in West Drain	Cooling Water Overflow Effluent				Effluent from Raw Material Storage Area
		EFFLUENT STREAM TYPE:	Storm	Storm	Combined				Storm
		TOXICITY TEST REQUIRED:	No	No	Yes				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None	Bi-monthly 30 days				None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None	Bi-monthly 30 days				None
		QUALITY CONTROL MONITORING REQUIRED:	No	No	Yes				No
		FREQUENCY OF SAMPLING:	M	M	D	TW	W	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED							
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX	XXX	XXX				XXX
4a	Nitrogen	Ammonia plus Ammonium	XXX	XXX			XXX		XXX
		Total Kjeldahl nitrogen	XXX	XXX			XXX		XXX
4b		Nitrate + Nitrite	XXX	XXX			XXX		XXX
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX	XXX			XXX		XXX
5b		Total organic carbon (TOC) (NOTE 1)	XXX	XXX			XXX		XXX
6	Total phosphorus	Total phosphorus	XXX	XXX			XXX		XXX
7	Specific conductance	Specific conductance	XXX	XXX	XXX				XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX	XXX	XXX				XXX
		Volatile suspended solids (VSS)							
9	Total metals	Aluminum	XXX	XXX		XXX			
		Beryllium	XXX	XXX				XXX	
		Boron	XXX	XXX				XXX	
		Cadmium	XXX	XXX				XXX	
		Chromium	XXX	XXX				XXX	
		Cobalt	XXX	XXX				XXX	

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE R: SARNIA PLANT (PARTEK INSULATIONS LTD.)

		NAME OF EFFLUENT STREAM:	Effluent in East Storm Drain	Effluent in West Drain	Cooling Water Overflow Effluent				Effluent from Raw Material Storage Area
		EFFLUENT STREAM TYPE:	Storm	Storm	Combined				Storm
		TOXICITY TEST REQUIRED:	No	No	Yes				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None	Bi-monthly 30 days				None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None	Bi-monthly 30 days				None
		QUALITY CONTROL MONITORING REQUIRED:	No	No	Yes				No
		FREQUENCY OF SAMPLING:	M	M	D	TW	W	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED							
9	Total metals (continued)	Copper	XXX	XXX				XXX	
		Lead	XXX	XXX				XXX	
		Molybdenum	XXX	XXX				XXX	
		Nickel	XXX	XXX				XXX	
		Silver	XXX	XXX				XXX	
		Strontium	XXX	XXX				XXX	
		Thallium	XXX	XXX				XXX	XXX
		Vanadium	XXX	XXX				XXX	XXX
		Zinc	XXX	XXX			XXX		XXX
10	Hydrides	Antimony	XXX	XXX				XXX	XXX
		Arsenic	XXX	XXX				XXX	XXX
		Selenium	XXX	XXX				XXX	XXX
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)	XXX	XXX				XXX	XXX
12	Mercury	Mercury						XXX	
14	Phenolics (4AAP)	Phenolics (4AAP)	XXX	XXX		XXX			XXX
25	Solvent Extractables	Oil and grease	XXX	XXX			XXX		XXX
IC3†	Sulphate	Sulphate	XXX	XXX			XXX		XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE S: SARNIA WORKS (WELLAND CHEMICAL LTD.)

		NAME OF EFFLUENT STREAM:	Effluent from South Lagoon	Effluent from #1 Lagoon	Effluent from Chlorine Filling Unit
		EFFLUENT STREAM TYPE:	Batch	Batch	OTCW
		TOXICITY TEST REQUIRED:	Yes	Yes	Yes
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days	Semi-annually 180 days	None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days	Semi-annually 180 days	None
		QUALITY CONTROL MONITORING REQUIRED:	No	No	No
		FREQUENCY OF SAMPLING:	during discharge	during discharge	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED			
2	Total cyanide	Total cyanide	XXX		
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX	XXX	XXX
4a	Nitrogen	Ammonia plus Ammonium	XXX	XXX	
		Total Kjeldahl nitrogen	XXX	XXX	
4b		Nitrate + Nitrite	XXX	XXX	
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX	XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)	XXX	XXX	XXX
6	Total phosphorus	Total phosphorus	XXX	XXX	XXX
7	Specific conductance	Specific conductance	XXX	XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX	XXX	XXX
		Volatile suspended solids (VSS)			
9	Total metals	Aluminum	XXX	XXX	
		Beryllium	XXX	XXX	
		Boron	XXX	XXX	
		Cadmium	XXX	XXX	

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE S: SARNIA WORKS (WELLAND CHEMICAL LTD.)

		NAME OF EFFLUENT STREAM:	Effluent from South Lagoon	Effluent from #1 Lagoon	Effluent from Chlorine Filling Unit
		EFFLUENT STREAM TYPE:	Batch	Batch	OTCW
		TOXICITY TEST REQUIRED:	Yes	Yes	Yes
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days	Semi-annually 180 days	None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days	Semi-annually 180 days	None
		QUALITY CONTROL MONITORING REQUIRED:	No	No	No
		FREQUENCY OF SAMPLING:	during discharge	during discharge	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED			
9	Total metals (continued)	Chromium	XXX	XXX	
		Cobalt	XXX	XXX	
		Copper	XXX	XXX	
		Lead	XXX	XXX	
		Molybdenum	XXX	XXX	
		Nickel	XXX	XXX	
		Silver	XXX	XXX	
		Strontium	XXX	XXX	
		Thallium	XXX	XXX	
		Vanadium	XXX	XXX	
		Zinc	XXX	XXX	
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)	XXX	XXX	
12	Mercury	Mercury	XXX		
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	XXX	XXX	
		1,1,2-Trichloroethane	XXX	XXX	
		1,1-Dichloroethane	XXX	XXX	
		1,1-Dichloroethylene	XXX	XXX	
		1,2-Dichlorobenzene	XXX	XXX	
		1,2-Dichloroethane (Ethylene dichloride)	XXX	XXX	
		1,2-Dichloropropane	XXX	XXX	
		1,3-Dichlorobenzene	XXX	XXX	

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE S: SARNIA WORKS (WELLAND CHEMICAL LTD.)

		NAME OF EFFLUENT STREAM:	Effluent from South Lagoon	Effluent from #1 Lagoon	Effluent from Chlorine Filling Unit
		EFFLUENT STREAM TYPE:	Batch	Batch	OTCW
		TOXICITY TEST REQUIRED:	Yes	Yes	Yes
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days	Semi-annually 180 days	None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days	Semi-annually 180 days	None
		QUALITY CONTROL MONITORING REQUIRED:	No	No	No
		FREQUENCY OF SAMPLING:	during discharge	during discharge	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED			
16	Volatiles, Halogenated (continued)	1,4-Dichlorobenzene	XXX	XXX	
		Bromoform	XXX	XXX	
		Bromomethane	XXX	XXX	
		Carbon tetrachloride	XXX	XXX	
		Chlorobenzene	XXX	XXX	
		Chloroform	XXX	XXX	
		Chloromethane	XXX	XXX	
		Cis-1,3-Dichloropropylene	XXX	XXX	
		Dibromochloromethane	XXX	XXX	
		Ethylene dibromide	XXX	XXX	
		Methylene chloride	XXX	XXX	
		Tetrachloroethylene (Perchloroethylene)	XXX	XXX	
		Trans-1,2-Dichloroethylene	XXX	XXX	
		Trans-1,3-Dichloropropylene	XXX	XXX	
		Trichloroethylene	XXX	XXX	
		Trichlorofluoromethane	XXX	XXX	
		Vinyl chloride (Chloroethylene)	XXX	XXX	
17	Volatiles, Non-Halogenated	Benzene	XXX	XXX	
		Styrene	XXX	XXX	
		Toluene	XXX	XXX	
		o-Xylene	XXX	XXX	
		m-Xylene and p-Xylene	XXX	XXX	

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE S: SARNIA WORKS (WELLAND CHEMICAL LTD.)

			Effluent from South Lagoon	Effluent from #1 Lagoon	Effluent from Chlorine Filling Unit
		NAME OF EFFLUENT STREAM:	Effluent from South Lagoon	Effluent from #1 Lagoon	Effluent from Chlorine Filling Unit
		EFFLUENT STREAM TYPE:	Batch	Batch	OTCW
		TOXICITY TEST REQUIRED:	Yes	Yes	Yes
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Semi-annually	Semi-annually	None
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days	180 days	
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually	Semi-annually	None
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days	180 days	
		QUALITY CONTROL MONITORING REQUIRED:	No	No	No
		FREQUENCY OF SAMPLING:	during discharge	during discharge	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED			
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	XXX	XXX	
		1,2,3,5-Tetrachlorobenzene	XXX	XXX	
		1,2,4,5-Tetrachlorobenzene	XXX	XXX	
		1,2,3-Trichlorobenzene	XXX	XXX	
		1,2,4-Trichlorobenzene	XXX	XXX	
		2,4,5-Trichlorotoluene	XXX	XXX	
		Hexachlorobenzene	XXX	XXX	
		Hexachlorobutadiene	XXX	XXX	
		Hexachlorocyclopentadiene	XXX	XXX	
		Hexachloroethane	XXX	XXX	
		Octachlorostyrene	XXX	XXX	
		Pentachlorobenzene	XXX	XXX	
25	Solvent Extractables	Oil and grease	XXX	XXX	XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE S: SARNIA WORKS (WELLAND CHEMICAL LTD.)

			Effluent from Aluminum Chloride Building (East Wall)	Effluent from Aluminum Chloride Building (South Wall)
		NAME OF EFFLUENT STREAM:	Effluent from Aluminum Chloride Building (East Wall)	Effluent from Aluminum Chloride Building (South Wall)
		EFFLUENT STREAM TYPE:	OTCW	OTCW
		TOXICITY TEST REQUIRED:	Yes	Yes
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None
		QUALITY CONTROL MONITORING REQUIRED:	No	No
		FREQUENCY OF SAMPLING:	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED		
2	Total cyanide	Total cyanide		
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX	XXX
4a	Nitrogen	Ammonia plus Ammonium		
		Total Kjeldahl nitrogen		
4b		Nitrate + Nitrite		
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)	XXX	XXX
6	Total phosphorus	Total phosphorus	XXX	XXX
7	Specific conductance	Specific conductance	XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX	XXX
		Volatile suspended solids (VSS)		
9	Total metals	Aluminum		
		Beryllium		
		Boron		
		Cadmium		

SCHEDULE S: SARNIA WORKS (WELLAND CHEMICAL LTD.)

		NAME OF EFFLUENT STREAM:	Effluent from Aluminum Chloride Building (East Wall)	Effluent from Aluminum Chloride Building (South Wall)
		EFFLUENT STREAM TYPE:	OTCW	OTCW
		TOXICITY TEST REQUIRED:	Yes	Yes
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None
		QUALITY CONTROL MONITORING REQUIRED:	No	No
		FREQUENCY OF SAMPLING:	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED		
9	Total metals (continued)	Chromium		
		Cobalt		
		Copper		
		Lead		
		Molybdenum		
		Nickel		
		Silver		
		Strontium		
		Thallium		
		Vanadium		
		Zinc		
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)		
12	Mercury	Mercury		
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane		
		1,1,2-Trichloroethane		
		1,1-Dichloroethane		
		1,1-Dichloroethylene		
		1,2-Dichlorobenzene		
		1,2-Dichloroethane (Ethylene dichloride)		
		1,2-Dichloropropane		
		1,3-Dichlorobenzene		

SCHEDULE S: SARNIA WORKS (WELLAND CHEMICAL LTD.)

			Effluent from Aluminum Chloride Building (East Wall)	Effluent from Aluminum Chloride Building (South Wall)
		NAME OF EFFLUENT STREAM:	Effluent from Aluminum Chloride Building (East Wall)	Effluent from Aluminum Chloride Building (South Wall)
		EFFLUENT STREAM TYPE:	OTCW	OTCW
		TOXICITY TEST REQUIRED:	Yes	Yes
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None
		QUALITY CONTROL MONITORING REQUIRED:	No	No
		FREQUENCY OF SAMPLING:	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED		
16	Volatiles, Halogenated (continued)	1,4-Dichlorobenzene		
		Bromoform		
		Bromomethane		
		Carbon tetrachloride		
		Chlorobenzene		
		Chloroform		
		Chloromethane		
		Cis-1,3-Dichloropropylene		
		Dibromochloromethane		
		Ethylene dibromide		
		Methylene chloride		
		Tetrachloroethylene (Perchloroethylene)		
		Trans-1,2-Dichloroethylene		
		Trans-1,3-Dichloropropylene		
		Trichloroethylene		
		Trichlorofluoromethane		
		Vinyl chloride (Chloroethylene)		
17	Volatiles, Non-Halogenated	Benzene		
		Styrene		
		Toluene		
		o-Xylene		
		m-Xylene and p-Xylene		

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE S: SARNIA WORKS (WELLAND CHEMICAL LTD.)

		NAME OF EFFLUENT STREAM:	Effluent from Aluminum Chloride Building (East Wall)	Effluent from Aluminum Chloride Building (South Wall)
		EFFLUENT STREAM TYPE:	OTCW	OTCW
		TOXICITY TEST REQUIRED:	Yes	Yes
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None
		QUALITY CONTROL MONITORING REQUIRED:	No	No
		FREQUENCY OF SAMPLING:	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED		
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene		
		1,2,3,5-Tetrachlorobenzene		
		1,2,4,5-Tetrachlorobenzene		
		1,2,3-Trichlorobenzene		
		1,2,4-Trichlorobenzene		
		2,4,5-Trichlorotoluene		
		Hexachlorobenzene		
		Hexachlorobutadiene		
		Hexachlorocyclopentadiene		
		Hexachloroethane		
		Octachlorostyrene		
		Pentachlorobenzene		
25	Solvent Extractables	Oil and grease	XXX	XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE T: THOROLD PLANT (THE EXOLON-ESK COMPANY OF CANADA LTD.)

		NAME OF EFFLUENT STREAM:	24" Outfall at Beaver-dams Road			
		EFFLUENT STREAM TYPE:	Combined			
		TOXICITY TEST REQUIRED:	Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes			
		FREQUENCY OF SAMPLING:	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX			
5a	Organic carbon	Dissolved organic carbon (DOC)			XXX	
5b		Total organic carbon (TOC) (NOTE 1)			XXX	
6	Total phosphorus	Total phosphorus			XXX	
7	Specific conductance	Specific conductance	XXX			
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX			
		Volatile suspended solids (VSS)				
9	Total metals	Aluminum			XXX	
		Beryllium				XXX
		Boron				XXX
		Cadmium				XXX
		Chromium				XXX
		Cobalt				XXX
		Copper				XXX
		Lead				XXX
		Molybdenum				XXX
		Nickel				XXX
		Silver				XXX
		Strontium				XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE T: THOROLD PLANT (THE EXOLON-ESK COMPANY OF CANADA LTD.)

		NAME OF EFFLUENT STREAM:	24" Outfall at Beaver-dams Road			
		EFFLUENT STREAM TYPE:	Combined			
		TOXICITY TEST REQUIRED:	Yes			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days			
		QUALITY CONTROL MONITORING REQUIRED:	Yes			
		FREQUENCY OF SAMPLING:	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
9	Total metals (continued)	Thallium				XXX
		Vanadium				XXX
		Zinc				XXX
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)				XXX
25	Solvent Extractables	Oil and grease			XXX	

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE U: WELLAND PLANT (CYANAMID CANADA INC.)

		NAME OF EFFLUENT STREAM:	Millers Creek Final Discharge				Sludge Pond #11				River Pumphouse Runoff			
		EFFLUENT STREAM TYPE:	Combined				Combined				Storm			
		TOXICITY TEST REQUIRED:	Yes				No				No			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Semi-annually				Quarterly				None			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				60 days							
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually				Semi-annually				None			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				180 days							
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
2	Total cyanide	Total cyanide			XXX				XXX					XXX
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX				XXX							XXX
4a	Nitrogen	Ammonia plus Ammonium	XXX				XXX							XXX
		Total Kjeldahl nitrogen	XXX				XXX							XXX
4b		Nitrate + Nitrite	XXX				XXX							XXX
5a	Organic carbon	Dissolved organic carbon (DOC)			XXX				XXX					XXX
5b		Total organic carbon (TOC) (NOTE 1)			XXX				XXX					XXX
6	Total phosphorus	Total phosphorus	XXX				XXX							XXX
7	Specific conductance	Specific conductance	XXX				XXX							XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX				XXX							XXX
		Volatile suspended solids (VSS)												
9	Total metals	Aluminum		XXX						XXX				XXX
		Beryllium				XXX				XXX				XXX
		Boron				XXX				XXX				XXX
		Cadmium				XXX				XXX				XXX

SCHEDULE U: WELLAND PLANT (CYANAMID CANADA INC.)

		NAME OF EFFLUENT STREAM:	Millers Creek Final Discharge				Sludge Pond #11				River Pumphouse Runoff			
		EFFLUENT STREAM TYPE:	Combined				Combined				Storm			
		TOXICITY TEST REQUIRED:	Yes				No				No			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	Semi-annually				Quarterly				None			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				60 days							
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	Semi-annually				Semi-annually				None			
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	180 days				180 days							
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
9	Total metals (continued)	Chromium				XXX				XXX				XXX
		Cobalt				XXX				XXX				XXX
		Copper				XXX				XXX				XXX
		Lead				XXX				XXX				XXX
		Molybdenum			XXX					XXX				XXX
		Nickel				XXX				XXX				XXX
		Silver				XXX				XXX				XXX
		Strontium				XXX				XXX				XXX
		Thallium				XXX				XXX				XXX
		Vanadium				XXX				XXX				XXX
		Zinc			XXX					XXX				XXX
10	Hydrides	Antimony				XXX				XXX				XXX
		Arsenic				XXX				XXX				XXX
		Selenium				XXX				XXX				XXX
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)				XXX				XXX				XXX
12	Mercury	Mercury				XXX				XXX				XXX
14	Phenolics (4AAP)	Phenolics (4AAP)			XXX					XXX				XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE U: WELLAND PLANT (CYANAMID CANADA INC.)

		NAME OF EFFLUENT STREAM:	Millers Creek Final Discharge				Sludge Pond #11				River Pumphouse Runoff			
		EFFLUENT STREAM TYPE:	Combined				Combined				Storm			
		TOXICITY TEST REQUIRED:	Yes				No				No			
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Quarterly 60 days				None			
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	Semi-annually 180 days				Semi-annually 180 days				None			
		QUALITY CONTROL MONITORING REQUIRED:	Yes				No				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
17	Volatiles, Non-Halogenated	Benzene				XXX				XXX				
		Styrene				XXX				XXX				
		Toluene				XXX		XXX						
		o-Xylene				XXX				XXX				
		m-Xylene and p-Xylene				XXX				XXX				
25	Solvent Extractables	Oil and grease			XXX				XXX					XXX
27	Polychlorinated Biphenyls	PCBs (Total)				XXX				XXX				XXX

SCHEDULE U: WELLAND PLANT (CYANAMID CANADA INC.)

		NAME OF EFFLUENT STREAM:	1st Avenue Sewer (surface ditch)	1st Avenue Sewer (inground)	3rd Avenue Sewer	4th Avenue Sewer
		EFFLUENT STREAM TYPE:	Storm	Storm	Storm	Storm
		TOXICITY TEST REQUIRED:	No	No	No	No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None	None	None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None	None	None
		QUALITY CONTROL MONITORING REQUIRED:	No	No	No	No
		FREQUENCY OF SAMPLING:	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
2	Total cyanide	Total cyanide	XXX	XXX	XXX	XXX
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX	XXX	XXX	XXX
4a	Nitrogen	Ammonia plus Ammonium	XXX	XXX	XXX	XXX
		Total Kjeldahl nitrogen	XXX	XXX	XXX	XXX
4b		Nitrate + Nitrite	XXX	XXX	XXX	XXX
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX	XXX	XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)	XXX	XXX	XXX	XXX
6	Total phosphorus	Total phosphorus	XXX	XXX	XXX	XXX
7	Specific conductance	Specific conductance	XXX	XXX	XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX	XXX	XXX	XXX
		Volatile suspended solids (VSS)				
9	Total metals	Aluminum	XXX	XXX	XXX	XXX
		Beryllium	XXX	XXX	XXX	XXX
		Boron	XXX	XXX	XXX	XXX
		Cadmium	XXX	XXX	XXX	XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE U: WELLAND PLANT (CYANAMID CANADA INC.)

		NAME OF EFFLUENT STREAM:	1st Avenue Sewer (surface ditch)	1st Avenue Sewer (inground)	3rd Avenue Sewer	4th Avenue Sewer
		EFFLUENT STREAM TYPE:	Storm	Storm	Storm	Storm
		TOXICITY TEST REQUIRED:	No	No	No	No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None	None	None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None	None	None
		QUALITY CONTROL MONITORING REQUIRED:	No	No	No	No
		FREQUENCY OF SAMPLING:	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
9	Total metals (continued)	Chromium	XXX	XXX	XXX	XXX
		Cobalt	XXX	XXX	XXX	XXX
		Copper	XXX	XXX	XXX	XXX
		Lead	XXX	XXX	XXX	XXX
		Molybdenum	XXX	XXX	XXX	XXX
		Nickel	XXX	XXX	XXX	XXX
		Silver	XXX	XXX	XXX	XXX
		Strontium	XXX	XXX	XXX	XXX
		Thallium	XXX	XXX	XXX	XXX
		Vanadium	XXX	XXX	XXX	XXX
		Zinc	XXX	XXX	XXX	XXX
10	Hydrides	Antimony	XXX	XXX	XXX	XXX
		Arsenic	XXX	XXX	XXX	XXX
		Selenium	XXX	XXX	XXX	XXX
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)	XXX	XXX	XXX	XXX
12	Mercury	Mercury	XXX	XXX	XXX	XXX
14	Phenolics (4AAP)	Phenolics (4AAP)	XXX	XXX	XXX	XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE U: WELLAND PLANT (CYANAMID CANADA INC.)

			1st Avenue Sewer (surface ditch)	1st Avenue Sewer (inground)	3rd Avenue Sewer	4th Avenue Sewer
		NAME OF EFFLUENT STREAM:	1st Avenue Sewer (surface ditch)	1st Avenue Sewer (inground)	3rd Avenue Sewer	4th Avenue Sewer
		EFFLUENT STREAM TYPE:	Storm	Storm	Storm	Storm
		TOXICITY TEST REQUIRED:	No	No	No	No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None	None	None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None	None	None
		QUALITY CONTROL MONITORING REQUIRED:	No	No	No	No
		FREQUENCY OF SAMPLING:	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
17	Volatiles, Non-Halogenated	Benzene				
		Styrene				
		Toluene				
		o-Xylene				
		m-Xylene and p-Xylene				
25	Solvent Extractables	Oil and grease	XXX	XXX	XXX	XXX
27	Polychlorinated Biphenyls	PCBs (Total)	XXX	XXX	XXX	XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE U: WELLAND PLANT (CYANAMID CANADA INC.)

		NAME OF EFFLUENT STREAM:	5th Avenue Sewer (west of gate)	5th Avenue Sewer (east of gate)	Lab Sewer	Dicy Cooling Water
		EFFLUENT STREAM TYPE:	Storm	Storm	Storm	OTCW
		TOXICITY TEST REQUIRED:	No	No	No	Yes
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None	None	None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None	None	None
		QUALITY CONTROL MONITORING REQUIRED:	No	No	No	No
		FREQUENCY OF SAMPLING:	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
2	Total cyanide	Total cyanide	XXX	XXX	XXX	
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX	XXX	XXX	XXX
4a	Nitrogen	Ammonia plus Ammonium	XXX	XXX	XXX	
		Total Kjeldahl nitrogen	XXX	XXX	XXX	
4b		Nitrate + Nitrite	XXX	XXX	XXX	
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX	XXX	XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)	XXX	XXX	XXX	
6	Total phosphorus	Total phosphorus	XXX	XXX	XXX	XXX
7	Specific conductance	Specific conductance	XXX	XXX	XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX	XXX	XXX	XXX
		Volatile suspended solids (VSS)				
9	Total metals	Aluminum	XXX	XXX	XXX	
		Beryllium	XXX	XXX	XXX	
		Boron	XXX	XXX	XXX	
		Cadmium	XXX	XXX	XXX	

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE U: WELLAND PLANT (CYANAMID CANADA INC.)

			5th Avenue Sewer (west of gate)	5th Avenue Sewer (east of gate)	Lab Sewer	Dicy Cooling Water
		NAME OF EFFLUENT STREAM:	5th Avenue Sewer (west of gate)	5th Avenue Sewer (east of gate)	Lab Sewer	Dicy Cooling Water
		EFFLUENT STREAM TYPE:	Storm	Storm	Storm	OTCW
		TOXICITY TEST REQUIRED:	No	No	No	Yes
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None	None	None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None	None	None
		QUALITY CONTROL MONITORING REQUIRED:	No	No	No	No
		FREQUENCY OF SAMPLING:	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
9	Total metals (continued)	Chromium	XXX	XXX	XXX	
		Cobalt	XXX	XXX	XXX	
		Copper	XXX	XXX	XXX	
		Lead	XXX	XXX	XXX	
		Molybdenum	XXX	XXX	XXX	
		Nickel	XXX	XXX	XXX	
		Silver	XXX	XXX	XXX	
		Strontium	XXX	XXX	XXX	
		Thallium	XXX	XXX	XXX	
		Vanadium	XXX	XXX	XXX	
		Zinc	XXX	XXX	XXX	
10	Hydrides	Antimony	XXX	XXX	XXX	
		Arsenic	XXX	XXX	XXX	
		Selenium	XXX	XXX	XXX	
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)	XXX	XXX	XXX	
12	Mercury	Mercury	XXX	XXX	XXX	
14	Phenolics (4AAP)	Phenolics (4AAP)	XXX	XXX	XXX	

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE U: WELLAND PLANT (CYANAMID CANADA INC.)

			5th Avenue Sewer (west of gate)	5th Avenue Sewer (east of gate)	Lab Sewer	Dicy Cooling Water
		NAME OF EFFLUENT STREAM:	5th Avenue Sewer (west of gate)	5th Avenue Sewer (east of gate)	Lab Sewer	Dicy Cooling Water
		EFFLUENT STREAM TYPE:	Storm	Storm	Storm	OTCW
		TOXICITY TEST REQUIRED:	No	No	No	Yes
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None	None	None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None	None	None
		QUALITY CONTROL MONITORING REQUIRED:	No	No	No	No
		FREQUENCY OF SAMPLING:	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
17	Volatiles, Non-Halogenated	Benzene				
		Styrene				
		Toluene				
		o-Xylene				
		m-Xylene and p-Xylene				
25	Solvent Extractables	Oil and grease	XXX	XXX	XXX	XXX
27	Polychlorinated Biphenyls	PCBs (Total)	XXX	XXX	XXX	

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE V: WELLAND PLANT (UNION CARBIDE CANADA LIMITED)

		NAME OF EFFLUENT STREAM:	#2 Weir Effluent	Government Dock Effluent				Effluent from Pump House Return				Effluent in Union Street Drain
		EFFLUENT STREAM TYPE:	OTCW	Combined				Combined				Storm
		TOXICITY TEST REQUIRED:	Yes	Yes				Yes				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	Semi-annually 180 days				Semi-annually 180 days				None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	Semi-annually 180 days				Semi-annually 180 days				None
		QUALITY CONTROL MONITORING REQUIRED:	No	Yes				No				No
		FREQUENCY OF SAMPLING:	M	D	TW	W	M	D	TW	W	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED										
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX	XXX				XXX				XXX
4a	Nitrogen	Ammonia plus Ammonium					XXX					
		Total Kjeldahl nitrogen					XXX					
4b		Nitrate + Nitrite				XXX						
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX			XXX				XXX		XXX
5b		Total organic carbon (TOC) (NOTE 1)	XXX			XXX				XXX		XXX
6	Total phosphorus	Total phosphorus	XXX			XXX				XXX		XXX
7	Specific conductance	Specific conductance	XXX	XXX				XXX				XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX	XXX				XXX				XXX
		Volatile suspended solids (VSS)										
9	Total metals	Aluminum	XXX				XXX				XXX	XXX
		Beryllium	XXX				XXX				XXX	XXX
		Boron	XXX				XXX				XXX	XXX
		Cadmium	XXX				XXX				XXX	XXX
		Chromium	XXX				XXX				XXX	XXX
		Cobalt	XXX				XXX				XXX	XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE V: WELLAND PLANT (UNION CARBIDE CANADA LIMITED)

		NAME OF EFFLUENT STREAM:	#2 Weir Effluent	Government Dock Effluent				Effluent from Pump House Return				Effluent in Union Street Drain
		EFFLUENT STREAM TYPE:	OTCW	Combined				Combined				Storm
		TOXICITY TEST REQUIRED:	Yes	Yes				Yes				No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	Semi-annually 180 days				Semi-annually 180 days				None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	Semi-annually 180 days				Semi-annually 180 days				None
		QUALITY CONTROL MONITORING REQUIRED:	No	Yes				No				No
		FREQUENCY OF SAMPLING:	M	D	TW	W	M	D	TW	W	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED										
9	Total metals (continued)	Copper	XXX				XXX				XXX	XXX
		Lead	XXX				XXX				XXX	XXX
		Molybdenum	XXX				XXX				XXX	XXX
		Nickel	XXX				XXX				XXX	XXX
		Silver	XXX				XXX				XXX	XXX
		Strontium	XXX				XXX				XXX	XXX
		Thallium	XXX				XXX				XXX	XXX
		Vanadium	XXX				XXX				XXX	XXX
		Zinc	XXX				XXX				XXX	XXX
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)	XXX				XXX				XXX	XXX
12	Mercury	Mercury					XXX				XXX	
14	Phenolics (4AAP)	Phenolics (4AAP)	XXX				XXX				XXX	XXX
25	Solvent Extractables	Oil and grease	XXX			XXX				XXX		XXX
IC1†	Chloride	Chloride			XXX				XXX			
IC3†	Sulphate	Sulphate			XXX				XXX			

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE V: WELLAND PLANT (UNION CARBIDE CANADA LIMITED)

			Effluent in Waste Disposal Area	Townline Road Ditch Effluent
		NAME OF EFFLUENT STREAM:	Effluent in Waste Disposal Area	Townline Road Ditch Effluent
		EFFLUENT STREAM TYPE:	Waste Disposal Effluent	Storm
		TOXICITY TEST REQUIRED:	No	No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24):	None	None
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:		
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24:	None	None
		CHARACTERIZATION SAMPLING MINIMUM INTERVAL:		
		QUALITY CONTROL MONITORING REQUIRED:	No	No
		FREQUENCY OF SAMPLING:	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED		
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX	XXX
4a	Nitrogen	Ammonia plus Ammonium		
		Total Kjeldahl nitrogen		
4b		Nitrate + Nitrite		
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)	XXX	XXX
6	Total phosphorus	Total phosphorus	XXX	XXX
7	Specific conductance	Specific conductance	XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX	XXX
		Volatile suspended solids (VSS)		
9	Total metals	Aluminum	XXX	XXX
		Beryllium	XXX	XXX
		Boron	XXX	XXX
		Cadmium	XXX	XXX
		Chromium	XXX	XXX
		Cobalt	XXX	XXX

EFFLUENT MONITORING REGULATION - INORGANIC CHEMICAL SECTOR

SCHEDULE V: WELLAND PLANT (UNION CARBIDE CANADA LIMITED)

			Effluent in Waste Disposal Area	Townline Road Ditch Effluent
		NAME OF EFFLUENT STREAM:	Effluent in Waste Disposal Area	Townline Road Ditch Effluent
		EFFLUENT STREAM TYPE:	Waste Disposal Effluent	Storm
		TOXICITY TEST REQUIRED:	No	No
		CHARACTERIZATION SAMPLING FREQUENCY (except for ATG 24): CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None
		CHARACTERIZATION SAMPLING FREQUENCY FOR ATG 24: CHARACTERIZATION SAMPLING MINIMUM INTERVAL:	None	None
		QUALITY CONTROL MONITORING REQUIRED:	No	No
		FREQUENCY OF SAMPLING:	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED		
9	Total metals (continued)	Copper	XXX	XXX
		Lead	XXX	XXX
		Molybdenum	XXX	XXX
		Nickel	XXX	XXX
		Silver	XXX	XXX
		Strontium	XXX	XXX
		Thallium	XXX	XXX
		Vanadium	XXX	XXX
		Zinc	XXX	XXX
11	Chromium (Hexavalent) (NOTE 2)	Chromium (Hexavalent)	XXX	XXX
12	Mercury	Mercury		
14	Phenolics (4AAP)	Phenolics (4AAP)	XXX	XXX
25	Solvent Extractables	Oil and grease	XXX	XXX
IC1†	Chloride	Chloride		
IC3†	Sulphate	Sulphate		

PART D

EXPLANATORY NOTES TO THE EFFLUENT MONITORING REGULATION FOR THE INORGANIC CHEMICAL SECTOR

PART D - EXPLANATORY NOTES TO THE EFFLUENT MONITORING REGULATION FOR THE INORGANIC CHEMICAL SECTOR

Introduction

The Explanatory Notes provide, where appropriate, an expanded description of each of the sections in the Effluent Monitoring Regulation for the Inorganic Chemical Sector (hereafter referred to as the IC Sector Regulation).

Pipe-specific monitoring schedules, listing the chemical parameters and their monitoring frequencies for each plant site form an integral part of the Regulation.

The IC Sector Regulation references the General Effluent Monitoring Regulation (Ontario Regulation 695/88), hereafter referred to as the General Regulation, for the "how to" aspects of the monitoring requirements.

The IC Sector Regulation is made up of the following nineteen sections, definitions, purpose, application, sampling points, characterization, routine monitoring requirements, quality control, toxicity testing, flow measurement, reporting, commencement and revocation.

Section 1: Definitions

This IC Sector Regulation is filed under the Environmental Protection Act. Definitions used in the Act therefore apply to this Sector Regulation.

Definitions used in the General Regulation apply to the IC Sector Regulation unless they are redefined in the Sector Regulation.

The Definitions section of the Regulation provides:

- clarification of terms used in the Regulation having several possible interpretations;

- definitions of technical terms used in the Regulation which may not be in common use;

- definitions for those terms which have a different meaning in the Regulation than those found in a dictionary or through common use;

- definitions of terms with an alternate use in the IC Sector Regulation from that in the General Regulation; and

- definitions of terms specific to the IC Sector.

The following definitions have been redefined for the IC Sector Regulation:

- characterization has been redefined to reference the IC Sector

characterization list which is specific to the IC Sector;

- combined effluent has been redefined from that in the General Regulation in order to provide a more accurate description of the combined effluent streams found in the IC Sector;

- a final discharge sampling point has been defined as it is specific to the IC Sector. The Regulation imposes a daily monitoring and toxicity testing duty on all final discharges;

- waste disposal site is redefined in the IC Sector Regulation from that in the Environmental Protection Act to provide a more accurate description of the waste disposal sites found in the IC Sector.

- a process change definition is included in the IC Sector Regulation rather than the General Regulation as it is referred to only in the context of the IC Sector Regulation.

- quarterly, semi-annually, semi-annual period, bi-monthly, bi-monthly period have been defined as they are specific to the IC Sector Regulation.

Section 2: Purpose

The purpose of the IC Sector Regulation is to establish over a twelve month period a data base on effluent quality for each of the plants in the Inorganic Chemical Sector. The data base will be used in the development of effluent limits for the IC Sector.

Section 3: Application

Section 3 lists twenty-two Inorganic Chemical Sector plants to which this Regulation applies. Each plant is linked to a site-specific monitoring schedule within the Regulation. The site-specific monitoring schedules for each discharger's plant identify the effluent streams to be monitored.

The link with the General Regulation is established in subsection (3) and (4) by stating that all monitoring obligations of the IC Sector Regulation shall be carried out in accordance with the General Regulation and that this Regulation is a Sectoral Effluent Monitoring Regulation in the context of the General Regulation.

Subsection (5) lists four additional compounds that are to be added for monitoring to the IC Sector List. These compounds were not listed in the General Regulation Schedules because they have been recently added to the EMPPL or they are on EMPPL but analytical protocols have just been developed for them. Footnotes A to D in Schedule AA of the IC Sector Regulation indicate how these additional compounds are to be collected and analyzed.

Subsection (6) allows the requirements of both the IC Sector and General Regulations to be discharged by a second party working on behalf of the direct discharger. Thus, a consultant or laboratory can be used by the discharger to carry out any or all of the requirements under the Regulation.

It is the intent of the Ministry that the MISA Regulation requirements shall replace the monitoring requirements for those effluents under Certificates of Approval or Control Orders for the duration of the Regulation in cases of duplicate requirements. This override will not extend to any effluent stream not monitored in the Regulation or for which monitoring is required to assess the performance of various treatment systems or processes.

Section 4: Sampling Points

Subsections (1) and (2) require that each direct discharger establish and specify sampling points on the effluent streams specified in the site-specific monitoring schedules for each discharger's plant. These sampling points must be used for all sampling required by the IC Sector Regulation unless an alternate sampling location is deemed acceptable by a Director of the Ministry of the Environment.

Effluent streams which designated for monitoring and combine prior to discharge, must be sampled on the same day. This requirement will allow a comparison of the analytical results for each constituent effluent stream with those for the combined effluent stream. The data will also be used for mass balance purposes to provide an indication of dilution effects.

Independent process effluent, combined effluent and batch discharge effluent streams, however, may be sampled at the specified frequencies on different days within the month to allow for a more even sampling workload distribution at sites with a large number of streams.

Same day sampling of as many streams as possible is encouraged in order to better relate the contaminant concentrations in the different streams and to allow the calculation of loading rates for the whole plant site at a given point in time.

Once-through cooling streams originating from the same process block should be sampled on the same day each month as are the process, combined or batch discharge effluents from the same block.

Subsection (5) requires that composite samples at each process and combined effluent sampling point be taken by methods defined in section 3(4) of the General Regulation.

Subsection (6) and (7) allows deviation from the minimum sample volumes specified in Column 5 of Schedule 2 of the General Regulation. Sample volumes other than those specified may be submitted provided that the analytical laboratory has demonstrated that it can meet at least the analytical method detection limits that are specified in Column 6 of Parts A and B of Schedule 3 of the General Regulation.

A minimum sample volume of four litres is required for the analysis of analytical test group 24 (chlorinated dibenzo-p-dioxins and dibenzofurans).

Sections 4 to 16 of the IC Sector Regulation, dealing with the establishment of sampling points and the monitoring requirements at each such point, cease to apply to a given sampling point when an approval under subsection 24(1) of the Ontario Water Resources Act is granted to route the effluent stream on which the sampling point is established to treatment or to eliminate the stream completely.

Section 5: Characterization

Characterization samples must be collected and analyzed according to the principles and protocols outlined in sections 3 and 4 of the General Regulation for sampling and analysis respectively.

The site-specific monitoring schedules for each direct discharger indicate the required frequency and minimum sampling intervals for performing characterization sampling and analyses on process effluent, combined effluent and batch discharge samples under the Regulation.

Generally characterization is specified on a quarterly or semi-annual basis. Minimum sampling intervals are specified in order to ensure that the samples are representative of discrete events and to provide an indication of seasonal impact on the effluents.

Characterization has been split into two separate requirements - analysis for dioxins/furans (analytical test group 24) and analysis for the remaining analytical test groups.

Subsection (1)(b) requires that a set of samples for characterization be collected from each process, combined and batch discharge effluent sampling point after each process change that is expected to adversely impact the quality of the effluent at that sampling point.

Subsection (4) requires that all of the characterization samples be analyzed for all of the analytical test groups as shown in Schedule AA of the IC Sector Regulation.

An exemption to the requirements of subsection (4) is provided where the site-specific characterization sampling frequencies for the two analytical requirements differ. In such cases, the characterization sample need only be analyzed for all analytical test groups except group 24.

Subsection (5) requires that the collection of the characterization samples at a given sampling point for the two analytical requirements be conducted on the same day where the specified sampling frequencies coincide.

Subsection (2) links the characterization samples to the provision in subsection 4(3) of the General Regulation which excludes the use of alternate

instrumental measurement method principles for these samples.

Subsection (7) requires that each sample collected at the characterization sampling frequencies specified in the site-specific monitoring schedules for each discharger's plant also undergo open characterization as defined under the definitions section in the General Regulation and in accordance with the requirements of Schedule 3, Part C of the General Regulation.

Open characterization is required at the same frequency as characterization except group 24. Open characterization is intended to identify compounds or elements not currently on the EMPPL.

Where the in-force date of the Regulation does not coincide with the beginning of a quarter or semi-annual period, the twelve month monitoring requirement will span five calendar quarters or three calendar semi-annual periods. However, only four or two characterization samplings are required to match the respective quarterly or semi-annual frequency requirements as specified in the site-specific monitoring schedules for that discharger's plant.

Characterization requires collecting and analyzing a sample for the parameters listed in Column 2 of Schedule AA in the Regulation, which lists conventional parameters and the IC Sector List. The following analytical test groups are required for characterization:

-	Group 1	Chemical Oxygen Demand (COD);
-	Group 2	Cyanide;
-	Group 3	Hydrogen ion (pH);
-	Group 4a	Ammonia plus Ammonium; Total Kjeldahl nitrogen;
-	Group 4b	Nitrate + Nitrite;
-	Group 5a	Dissolved Organic Carbon (DOC);
-	Group 5b	Total Organic Carbon (TOC) (only if TSS > 15 mg/L);
-	Group 6	Total Phosphorus;
-	Group 7	Specific conductance;
-	Group 8	Total Suspended Solids (TSS); Volatile Suspended Solids (VSS);
-	Group 9	Total metals;
-	Group 10	Hydrides;
-	Group 11	Chromium (Hexavalent) (only if Total Cr > 1 mg/L);
-	Group 12	Mercury;
-	Group 14	Phenolics (4AAP);
-	Group 15	Sulphide;
-	Group 16	Volatiles, Halogenated;
-	Group 17	Volatiles, Non-Halogenated;
-	Group 18	Volatiles, Water Soluble;
-	Group 19	Extractables, Base Neutral;
-	Group 20	Extractables, Acid (Phenolics);
-	Group 23	Extractables, Neutral Chlorinated;
-	Group 24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans;
-	Group 25	Solvent Extractables;

- Group 27 PCBs (Total);
- Group IC1 Chloride;
- Group IC2 Fluoride;
- Group IC3 Sulphate.

COD is a requirement for characterization but not for routine monitoring. COD has been included to provide a comparison with DOC and also to give an indication of the presence of non-organic oxidizable material.

Group 13 (Total Alkyl Lead) is not required for characterization in the Inorganic Chemical Sector as Alkyl Lead is not manufactured in the Sector. Analytical test groups 21 (Extractables, Phenoxy Acid Herbicides) and 22 (Extractables, Organochlorine Pesticides) are excluded from characterization as they are not listed on EMPPL and are currently not manufactured in Ontario. Test groups 26a (Fatty Acids) and 26b (Resin Acids) are excluded from characterization as these acids are not manufactured in the Inorganic Chemical Sector.

Analytical data from daily, thrice-weekly, weekly and monthly sampling may be used toward fulfilling the characterization requirements, provided that all samples at a given sampling point were taken on the same day and only the instrumental measurement method principles listed in Column 4 of Schedule 3, Parts A and B are followed.

Routine Monitoring

The requirements for routine monitoring of effluents are specified in sections 6 through 13 of the IC Sector Regulation.

All routine monitoring samples must be collected and analyzed according to the principles and protocols outlined in sections 3 and 4 of the General Regulation for sampling and analysis respectively.

Daily, thrice-weekly, weekly and monthly monitoring requirements apply only to process, combined and batch discharge effluent streams. Once-through cooling water, storm water and waste disposal site effluent streams require only monthly monitoring. Emergency overflows are monitored on an event basis.

Section 6: Daily Monitoring

Parameters for daily monitoring are indicated in the daily column in the site-specific monitoring schedule for each discharger's plant.

Subsection (1) requires that all process effluent, combined effluent or batch discharge effluent sampling points which are also final discharge sampling points be monitored for the following analytical test groups:

- Group 3 Hydrogen ion (pH);
- Group 7 Specific conductance.

- Group 8 Total suspended solids (TSS).

It is preferable that groups 3 and 7 are monitored continuously using on-line analyzers to provide a record of the variability of the final discharges. However, the samples may be collected and analyzed using composite sampling methods.

In cases where on-line analyzers or composite samplers cannot be used on a final discharge stream due to physical or practical limitations, subsection (2) requires that each of the constituent streams be monitored for the daily parameters.

Requests to use on-line analyzers for monitoring parameters other than pH or specific conductance must be submitted to the Ministry for approval by the Regional Director along with supporting technical data.

Subsection (4) exempts samples from analysis for analytical test groups 3, 7 and 8 if those samples are being done under subsection (1).

Subsection 4(18) of the General Regulation requires a monthly sample to be collected from each sampling point at which an on-line analyzer is used and analyzed in the laboratory for the specific on-line analyzer measured parameters. This will provide an indication of the accuracy of the on-line analyzer by providing an average value for the range of data recorded by the on-line analyzer.

Subsection (5) exempts the direct discharger from the daily monitoring requirements at a given sampling point if there is insufficient volume because of the collection of inspection samples at that point by the Ministry.

Section 7: Thrice-Weekly Monitoring

Parameters for thrice-weekly monitoring are site-specific and are based on their previous detection above levels of concern as outlined in the IC Sector Regulation Development Document.

Section 8: Weekly Monitoring

Parameters for weekly monitoring are indicated in the weekly column in the site-specific monitoring schedule for each discharger's plant.

The weekly minimum monitoring requirement is:

- Group 5a Dissolved Organic Carbon (DOC);
- Group 5b Total Organic Carbon (TOC); (only if TSS > 15mg/L);
- Group 6 Total phosphorus;
- Group 25 Solvent Extractables (Oil & grease).

Additional parameters are site-specific and are based on their previous

detection in specific effluents as outlined in the IC Sector Regulation Development Document.

Subsection (2) requires that the weekly sample be collected on the same day as one of the thrice-weekly samples from the same sampling point to provide a complete set of data.

A minimum of two days between the collection of any two consecutive weekly samples is required by subsection (3) to increase sample randomness.

Section 9: Monthly Monitoring

Parameters for monthly monitoring are indicated in the monthly column in the site-specific monitoring schedule for each discharger's plant.

Monthly analysis for any or all of the following analytical test groups are based on effluent-specific considerations as outlined in the IC Sector Regulation development document:

- Group 2 — Cyanide;
- Group 4a — Ammonia plus Ammonium; Total Kjeldahl nitrogen;
- Group 4b — Nitrate + Nitrite;
- Group 9 — Total metals;
- Group 10 — Hydrides;
- Group 11 — Chromium (Hexavalent) (only if Total Cr > 1 mg/L);
- Group 12 — Mercury;
- Group 14 — Phenolics (4AAP);
- Group 15 — Sulphide;
- Group 16 — Volatiles, Halogenated;
- Group 17 — Volatiles, Non-Halogenated;
- Group 18 — Volatiles, Water Soluble;
- Group 19 — Extractables, Base Neutral;
- Group 20 — Extractables, Acid (Phenolics);
- Group 23 — Extractables, Neutral Chlorinated;
- Group 24 — Chlorinated Dibenzo-p-dioxins and Dibenzofurans;
- Group 27 — PCBs (Total).

A minimum interval of two weeks between the collection of successive monthly samples is required in order to provide independent samples over as wide a range of operating conditions as possible.

Monthly samples must be collected on the same day as the weekly samples for the same effluent stream in order to provide as complete a set of analytical data on a given day as possible.

Section 10: Monthly Monitoring - Once-Through Cooling Water (OTCW)

Where a once-through cooling water sampling point exists, parameters for

monthly monitoring are indicated in the site-specific monitoring schedule for that discharger's plant.

The samples collected from a once-through cooling water effluent stream should be collected on the same day as the monthly process, combined or batch discharge samples.

Where the monthly process, combined and batch discharge effluent samples are taken on different days in the month, the once-through cooling water samples for a given sample point need only be taken once that month on a day when effluent samples are collected from the same process block or general process area. This will provide a better indication of plant operations at the same point in time.

A minimum interval of two weeks between the collection of successive monthly samples is required for the same reasons as discussed under section 9.

Section 11: Monthly Monitoring - Storm Water

Where storm water sampling points have been designated for a discharger, monthly monitoring of storm water discharges is required for storm events with rainfall in excess of 5 millimetres over a 24 hour period. Included is a requirement for monitoring the discharge during at least two thaw periods during the winter months. The parameters for monitoring are indicated in the site-specific monitoring schedule for that discharger's plant. Thaw samples are needed to provide an indication of contamination from melting snow and ice.

In cases where samples cannot be collected from a storm water sampling point because of a lack of sufficient volume of discharge, a compensating set of samples from a separate storm event must be collected in the following month in order to provide a total of 12 data points over the regulation period.

Subsection (3) requires that a reasonable effort be made to collect at least two storm samples from thaws with at least a two week interval between the thaw storm water collections to ensure as much as possible that separate events are being monitored.

Samples should be collected towards the beginning of the discharge in order to catch the "first flush" effects. However, in cases where a retention structure is available to provide holdup time, a sample representative of the contents of the structure may be collected directly from the structure prior to its discharge.

The list of storm water parameters to be analyzed is site-specific and reflect the potential contamination from process and plant areas from which the storm water drains.

Section 12: Monthly Monitoring - Waste Disposal Site Effluent

Where a waste disposal site effluent sampling point is indicated in the site-

specific monitoring schedule for that discharger's plant, monthly monitoring is required. Where discharges are controlled at intervals greater than one month, monitoring is only required at the time of discharge. The parameter list for analysis is site-specific and reflects to a large extent chemicals known to have been placed in the disposal site.

Section 13: Event Monitoring - Emergency Overflow

Where emergency overflow effluent sampling points have been designated for a discharger, monitoring is required of each overflow for the parameters indicated in the site-specific schedule for that discharger's plant.

Monitoring parameters are specified on the basis of known process parameters which could be present in the overflow.

Section 14: Quality Control Monitoring

This section requires monthly and quarterly collection of the following three types of field quality control samples:

- duplicates
- travelling blanks
- travelling spiked blanks.

The sampling points where quality control monitoring is required are indicated in the site-specific monitoring schedule for each discharger's plant.

A duplicate sample will provide a measure of the reproducibility of sampling techniques used at the site including the cleanliness of the sample containers.

A travelling blank sample will provide an indication of any problems with sample contamination due to extraneous volatile fractions of contaminants in the atmosphere or due to any contaminant introduction by handling of the sample containers. Travelling blank samples need not be analyzed for analytical test groups 1 (COD), 3 (pH) and 8 (TSS/VSS).

A travelling spiked blank sample will provide an indication of the degree of degradation of the target parameters from the time of sampling to the time of analysis. This in turn may indicate degradation of the target parameters in the regular effluent sample itself. Only analytical test groups 16 to 20, 23, 24 and 27 are to be analyzed because they are the most likely to be affected by volatilization or degradation in the unpreserved solution.

Travelling spiked blanks are not required for the conventional pollutants and metals. Inorganic parameters in samples are stable. In addition, most of the samples are either preserved or are analyzed within a short time period.

Each travelling spiked blank sample is to be prepared with a standard solution which contains all of the parameters in the analytical test group for which the routine sample is normally analyzed.

For the purpose of providing a duplicate sample when automatic composite samplers are used, either the taking of aliquots from the collected samples or sample splitting is permitted. A second sampler for obtaining duplicates is not required. However, separate containers must be used to collect the duplicate samples for analytical test group 25 (solvent extractables).

Subsections (3), (5) and (8) require that duplicate, travelling blank and spiked travelling blank samples respectively be taken monthly on the same day as the regular monthly samples from the sampling point of the stream indicated as requiring quality control monitoring in the site-specific monitoring schedule for that discharger's plant. Each sample is to be analyzed for the parameters required to be routinely analyzed at the daily and thrice-weekly frequency for that sampling point.

Similarly, subsections (4), (7) and (9) require that quality control samples as above be taken quarterly on the same day as the monthly quality control samples from the same sampling point and that they be analyzed for the parameters required to be routinely analyzed at the weekly and monthly frequency for that sampling point.

Travelling blanks need not be analyzed for pH and TSS/VSS. No relevant pH information can be obtained on a travelling blank of distilled water. To analyze TSS/VSS, gross contamination would be required for it to be detected at ppm levels.

Additional laboratory quality control samples are to be analyzed and prepared by each laboratory as outlined in Section 4 of the General Regulation. This quality control data will provide an indication of analytical variability due to laboratory procedures.

Section 15: Toxicity Testing

Section 5 of the General Regulation specifies the test protocols which must be followed for the fish toxicity test and the Daphnia magna acute lethality toxicity test.

Under the IC Sector Regulation, toxicity test samples are to be collected at each process effluent, combined effluent or batch discharge effluent sampling points which are also final discharge sampling points.

The samples must be collected on the same day as the monthly chemical monitoring samples for the same effluent stream in order to aid in the interpretation and possible correlation of the chemical analyses with the results of the biological tests.

Effluent samples used for the fish toxicity and Daphnia magna tests are to be taken from the same sample container or set of containers in order to minimize the likelihood of sample differences.

An exemption to pass/fail fish testing on undiluted effluent is granted in the case where the first three consecutive monthly LC50 fish toxicity tests show

fish mortality no greater than 20% of the population at each concentration in the serial dilutions.

If a pass/fail results in a fish mortality higher than 20%, then the full LC50 fish toxicity tests must be performed at least for the next three months.

Subsequently, if fish mortality at each concentration in the serial dilutions over three consecutive monthly tests does not exceed 20%, pass/fail tests may be resumed. If at any test concentration, the 20% survival criterion is not met, the fish toxicity test requirement reverts to three consecutive monthly LC50 tests.

It is not unusual for one fish in a serial dilution sample to suffer mortality due to natural causes. Therefore, mortality greater than two fish in most cases would be an indication of some possible effluent lethality.

The allowance to pass/fail testing does apply to the Daphnia magna test. Substantially less information is available about the effects of the Sector's effluents on Daphnia magna and therefore, a full 12 months of testing is required.

Toxicity tests are also required quarterly for once-through cooling water streams. The toxicity samples must be collected on the same day as the routine monthly monitoring samples for that stream in order to provide a correlation of the chemical analyses with the results of the biological tests.

The initial quarterly test for each once-through cooling water stream is a full LC50 for both fish and Daphnia magna. However, for a given sampling point, a 100% undiluted test solution may be used for subsequent quarterly tests provided that for the initial quarterly and any subsequent test, both the fish and Daphnia magna mortality is no more than 20% of the population at each effluent concentration.

For a given once-through cooling water sampling point, full serial dilution tests for both fish and Daphnia magna must be reinstated where the 100% undiluted test solution results in mortality greater than 20% of the population of either test species.

Section 16: Flow Measurement

Flow measurement accuracy and frequency requirements are outlined in section 6 of the General Regulation.

Subsection (1) of the IC Sector Regulation requires that all process and combined effluent stream flows be continuously monitored.

Process effluents must have installed continuous flow measurement devices capable of an accuracy of ±7%. However, an already installed flow measuring device for a process effluent stream, with a demonstrated accuracy of ±15% over the full range of the device will also be acceptable.

The total daily flow for a combined effluent stream may be estimated to an accuracy of ±20% in cases where there is no continuous flow measurement device on the stream.

In cases of flow device malfunction, process and combined effluent stream flows must be reported on the basis of at least three separate flow estimates over the twenty-four hour sampling period as the total volume discharged per day.

Flows of batch discharge and once-through cooling water streams need to be measured or estimated at the time of each sampling to an accuracy of ±20%.

For waste disposal site effluent and emergency overflows, the volume of discharge may be measured or estimated to an accuracy of ±20%.

For storm water discharge measurement or estimation, the ±20 accuracy requirement in the General Regulation has been overridden by subsection (6) to allow less accurate flow data provided it is accompanied by an assessment of its accuracy.

Subsections (7) to (10) require that the accuracies for flow measuring devices for process and combined effluent streams be demonstrated either by calibration performed no earlier than one year prior to the promulgation of the IC Sector Regulation or by the submission of reports certifying that the flow measuring devices have been installed according to recognized standards.

The one year back-dating ensures that relatively up to date calibration information is provided.

In cases where storm water or waste disposal site effluent is collected in a retention basin, the volume discharged may be measured using the change in level in the basin.

Where the direct discharger is unable to carry out a field calibration on a secondary flow measuring device for a given stream prior to the collection of the first set of samples as required under subsection 7(7) of the General Regulation, the direct discharger is not prevented from taking samples from other streams which have calibrated flow devices.

Section 17: Reporting

Section 7 of the General Regulation outlines the reporting requirements for each direct discharger.

Subsection (1) of the IC Sector Regulation requires the submission of an Initial Report by September 8, 1989. The contents of an Initial Report are outlined in subsection 7(1) of the General Regulation. A guidance document for completing the Initial Report will be provided to each Sector plant site.

Information submitted in the Initial Report which is considered by the plant to be confidential business information must be identified as such on each page.

This Initial Report is intended to provide information on plant processes with respect to aqueous waste generation, flow and sampling equipment and plant and laboratory procedures to be used in carrying out all requirements of the monitoring program. Four copies of the report, including any attachments, should be provided. Any changes to the information submitted in the Initial Report must be submitted to the Director in writing.

The reporting section of the IC Sector Regulation requires that the sampling dates and results of all analyses required under sections 5 to 14 of the IC Sector Regulation, including the monthly verification of on-line analyzer performance data as required by section 4(18) of the General Regulation, be reported to the Director on a floppy diskette within the time periods specified in subsection 7(2) of the General Regulation.

All positive numerical values of analytical data at or above the analytical method detection limits calculated by each laboratory performing the analyses must be reported. Results below the laboratory calculated method detection limits may be reported as positive numerical values rather than "less than MDL".

The results of the toxicity testing must be reported within sixty days of sample collection on a floppy diskette accompanied by a signed hard copy report in the format specified in Schedule 4 of the General Regulation.

Flow device accuracy information obtained on the basis of calibration, certification and estimation must be submitted no later than thirty days before its first use for the purposes of the Regulation. The submission deadline in most cases will be November 1, 1989. Similarly subsection (14) requires a description and an assessment of accuracy for the method used to estimate storm water flow also with a submission deadline of November 1, 1989.

The reporting deadlines for flow calibration information provide an additional two month period beyond the deadline for the Initial Report for the plant sites to calibrate their flow equipment.

The one month interval between the flow accuracy data submission deadline and the first use of the flow equipment under the Regulation will allow time to make any required modifications to the equipment prior to the start of monitoring.

The calibration of secondary flow measuring devices must be performed prior to the start of monitoring according to subsection 6(7) of the General Regulation. The submission of documentation of such calibration is required no later than November 1, 1989.

Subsections (18) and (19) require the reporting to the Director of rainfall for each storm event and specific flow information for each process effluent, combined, batch discharge, once-through cooling water, storm water, waste disposal site effluent and emergency overflow stream in writing within sixty days after the day on which the information was recorded.

A schedule of sampling dates and times for monthly and characterization

sampling is required thirty days before the sampling takes place to allow the Ministry to plan any inspection sampling. Prompt notification is required for any changes to the submitted schedule.

Subsection (22) requires the quarterly submission of the quantities of chemicals added to once-through cooling water in the previous quarter. The data will be correlated with actual amounts found in the effluents.

A flow variability report referred to in subsection 3(5) of the General Regulation, is to be submitted by December 31, 1990 for each process effluent stream from which samples were collected other than by means of an automatic flow proportional composite sampling device.

This report will determine if a given process effluent flow is sufficiently variable to require a flow proportional sampler or its equivalent of eight grab samples collected at equal time intervals and combined in proportion to flow. Where applicable, an on-line analyzer may be specified as an alternative to flow proportional sampling for the parameters that can be measured on-line.

Under section 3(6) of the General Regulation, failure to provide this report by the due date would deem the process effluent stream a variable flow stream. Such a stream would require the use of flow proportional sampling or its equivalent within three months of the report's due date. The implementation date would be no later than March 1, 1991.

Subsections (25), (26) and (27) require the keeping of records for all sampling, sampling equipment maintenance and analytical methods used. This would typically include Quality Control documentation, laboratory control charts, instrument calibration and maintenance records, and concentration data for spiked blanks and spiked samples.

Maintenance in the form of periodic calibration of automatic samplers is recommended because of the drift in delivered volumes over a period of time for some types of samplers.

Subsection (28) requires that malfunctions or any other problems which interfere carrying out the requirements of both the General and IC Sector Regulations, and the remedial action taken, be reported within sixty days of the occurrence. The reasons for non-compliance with the requirements, as documented in this report, may be taken into consideration by abatement and enforcement staff investigating an act of non-compliance.

It is prudent to have backup systems available for critical elements to minimize the chances of non-compliance.

Subsection (29) requires that all records under this Regulation be kept for two years after the date of the last report submitted under this Regulation.
All records which are required to be kept by this subsection are primarily for inspection purposes to ensure compliance with this Regulation.

Section 18: Commencement

Monitoring under the IC Sector Regulation begins on December 1,1989. The IC Sector Regulation comes into force on the day the Regulation is filed except sections 5 to 15 and subsections 16(1) to (6) which come into force on December 1, 1989.

Section and subsections which are in force from date of filing include:

Section 1		Definitions;
Section 2		Purpose;
Section 3		Application;
Subsection 17	(1)	initial report;
	(2)	identification of stream types;
	(3)	changes to the initial report;
	(12)	calibration/certification;
	(13)	measurement/estimation of flow;
	(14)	measurement/estimation of storm water;
	(20)	monthly/characterization sampling schedule;
	(21)	changes to schedule.

An implementation period of approximately five months from the promulgation date to the in-force date of the Regulation has been provided to allow sufficient time for the plant sites to purchase and install equipment, negotiate contracts with laboratories, set up monitoring programs and train personnel.

Section 19: Revocation

On December 1, 1990 at the end of the twelve month monitoring period, the following sections and subsections of the IC Sector Regulation are revoked:

Section 5	Characterization;
Sections 7-13	All routine monitoring except daily;
Section 15	Toxicity Testing;
Subsection 17	(18) storm, waste disposal site and emergency overflow effluent.

In order to provide continued monitoring during the post-monitoring regulation period before the effluent limits regulation is in force, the daily monitoring requirements for process, combined and batch discharge effluents, as specified in section 6, will remain in force.

The on-going daily samples must be collected and analyzed according to the same principles and protocols followed during the twelve month monitoring period. Flow measurement of monitored streams must continue at the accuracy specified in the General Regulation.

Characterization and toxicity testing will not continue under this Regulation beyond twelve months.